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Region**

Report No. 6

Cultural Resources

A Historic Overview for the Colville and
Idaho Panhandle National Forests and
the Bureau of Land Management
Spokane and Coeur d'Alene Districts.

Northeastern Washington & Northern Idaho



A Historic Overview for the
Colville and Idaho Panhandle National Forests and the
Bureau of Land Management Spokane and Coeur d'Alene Districts
Northeastern Washington/Northern Idaho

A Cultural Resource Narrative

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A B S T R A C T

This cultural resource overview focuses on the ethnography, history, and oral history of Stevens, Ferry, and Pend Oreille Counties, Washington, and Boundary, Bonner, Kootenai, Shoshone, Benewah, Latah, and Clearwater Counties, Idaho. Major emphasis is placed on lands within the administrative boundaries of the Colville and Idaho Panhandles National Forests and Bureau of Land Management, Spokane and Coeur d'Alene Districts. This study is presented in two volumes, the first of which presents a cultural resource narrative which is based on themes generally derived from "Historical Themes in Western American and Alaskan History" (Bureau of Land Management 1978) along with discussions on environment and settlement patterns. The second volume involves a discussion of oral history and traditions of the project area as drawn from available published sources and from over 20 interviews conducted by project members. In addition to providing a cultural resource overview, one of the goals of this project was to demonstrate the usefulness of oral history data to history and cultural resource management. Thus, pertinent information was drawn from the informant interviews and added to the appropriate sections of the cultural resource narrative.

A C K N O W L E D G E M E N T S

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CRC also extends appreciation to the archaeologists representing the federal agencies involved in this project. Cort Sims represented the Idaho Panhandle National Forests and was also CRC's major contact, Joseph Randolph represented the Bureau of Land Management in Spokane, Jill Osborn the Colville National Forest, and Dan Hutchison the Bureau of Land Management in Coeur d'Alene. Special thanks go to Cort and Joe for answering our many questions and for sending us new leads to follow up.

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O R I E N T A T I O N

This report is submitted in partial fulfillment of contract No. 53-0281-0-63 between the Idaho Panhandle National Forests and Cultural Resource Consultants, Inc. (CRC) of Sandpoint, Idaho. This project was jointly sponsored by the Idaho Panhandle National Forests, Colville National Forest, and the Bureau of Land Management, Spokane and Coeur d'Alene Districts. The project area included all lands administered by the Bureau of Land Management (BLM) and the U.S. Forest Service in Pend Oreille, Stevens, and Ferry Counties in northeastern Washington and Boundary, Bonner, Kootenai, Benewah, and Shoshone Counties in northern Idaho, and BLM administered lands in Latah and Clearwater Counties, Idaho (Figure 1). All lands within the administrative boundaries of the BLM and U.S. Forest Service in these counties were considered as an integral part of this study. However, major emphasis was directed toward these areas under federal management.

This Class I Inventory is divided into two portions, the first of which consists of an historical overview (or cultural resource narrative) and the second, an oral traditions overview. Volume I presents the ethnography of the Native Americans in the project area along with the history, a summary of past and current archaeological and historical projects, a listing of collections, and a cultural chronology of the important events that took place from Euroamerican contact to the present (1970). Volume II is a synthesis of the oral traditions and histories that were identified from interviews with individuals having knowledge of the project area. One of the major objectives of this overview was to demonstrate the usefulness of oral history in the development and enhancement of literature searches such as the ones presented in the cultural resource narrative. As such, information from interviewees has been added to the narrative in areas where it is pertinent.

To ensure a flow of information between the researchers of Volumes I and II, meetings were periodically held to update each of the research teams and to relate any problems they were experiencing. Each of the research teams divided their areas of research into themes. "Historical Themes in Western American and Alaskan history", (Bureau of Land Management 1978), was used as a guide in developing these themes. The first of these meetings was held in August of 1980, and it focused on the outcome of informal interviews conducted by the oral historians and the themes they had begun developing as a result of the information they had obtained. In October, the second meeting was held and themes were again discussed. The cultural resource narrative researchers presented

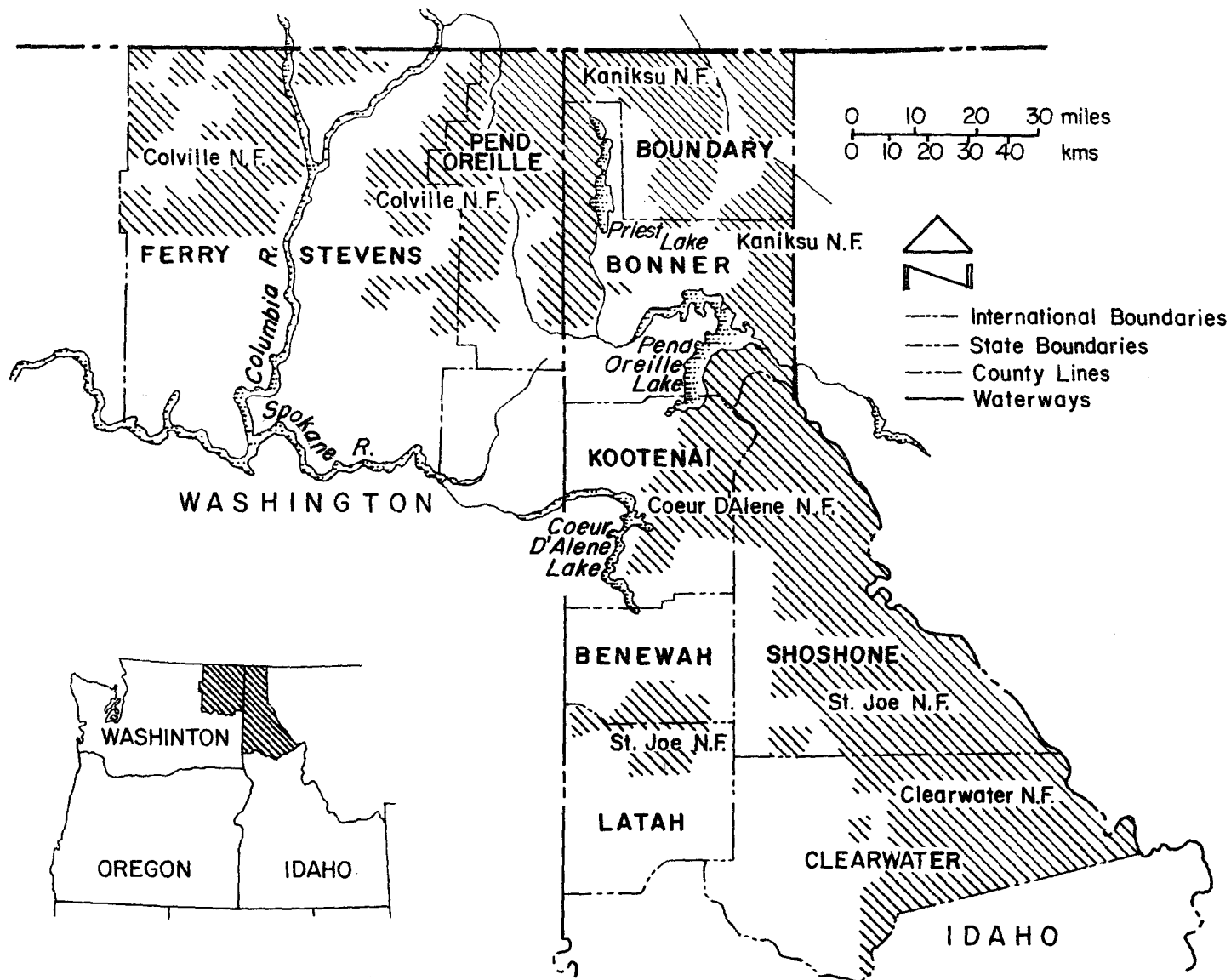


Figure 1. The project area.

the themes that they had developed from their ethnographic and historic research. At this time, the two teams of researchers began to synthesize both sets of themes to develop the single list that is used in Volumes I and II. The oral traditions researchers also presented a preliminary list of questions which was going to be used during the interview sessions and asked for comments and additions from the cultural resource narrative team. The final meeting of the project team was held in January 1981 in an effort to correct any last-minute problems and to review the results of the interviews and research.

The process of developing the ethnographic and historic themes for the cultural resource narrative entailed research of records and collections throughout the project and in areas immediately adjacent to it. In addition to the development of themes, CRC project members were also recording information on archival, historical, archaeological, and photographic collections along with data on past and current archaeological and historic projects. In an effort to collect this information, CRC researchers visited county museums and libraries, Forest Service and BLM offices, tribal agencies, university libraries, and various depositories for archaeological and historical materials. The following is a list of those places and individuals that were contacted during the research phase of this project.

Ferry County

Louise Hesse Memorial Library, Republic
Ferry County Historical Society, Republic
Madilane Perry, Republic

Stevens County

Stevens County Historical Society, Colville
Colville Public Library, Colville
Colville National Forest Supervisor's Office, Colville
Chewelah Museum, Chewelah
Kettle Falls Historical Commission, Kettle Falls
Spokane Tribal Museum, Wellpinit
George Flet, Director
Claudia Himmelberg, Colville
Kettle Falls Historical Committee, Colville

Pend Oreille County

Sullivan Ranger Station, Sullivan Lake
Newport Ranger Station, Newport
Soil Conservation Service, Newport
Agricultural Extension Office, Newport
Pend Oreille County Historical Society, Newport
Metaline Public Library, Metaline Falls

Boundary County

Boundary County Library, Bonners Ferry
Boundary County Historical Society, Bonners Ferry
Soil Conservation Service, Bonners Ferry
Agricultural Extension Office, Bonners Ferry
Farm Home Administration, Bonners Ferry

Bonner County

Sandpoint-East Bonner County Library, Sandpoint
Bonner County Historical Society and Museum, Sandpoint
Soil Conservation Service, Sandpoint
Agricultural Extension Office, Sandpoint
University of Idaho Agricultural Experimental Station, Sandpoint
Sandpoint Ranger Station, Sandpoint
Priest Lake Ranger Station, Priest Lake
Poirier Museum, Blanchard

Kootenai County

North Idaho College Library, Coeur d'Alene
Museum of North Idaho, Coeur d'Alene
Bureau of Land Management, Coeur d'Alene
Idaho Panhandle National Forests Supervisor's Office, Coeur d'Alene
Mission of the Sacred Heart, Cataldo

Shoshone County

Mining Museum, Wallace
Wallace Ranger Station, Silverton
Shoshone Work Center, near Prichard
Bunker Hill Company, Kellogg

Benewah County

Coeur d'Alene Indian Tribe

Latah County

Archive of Pacific Northwest Archaeology, Moscow
Laboratory of Anthropology, University of Idaho, Moscow
University of Idaho Library, Moscow
Latah County Library, Moscow
Latah County Historical Society, Moscow
Potlatch Ranger Station, Potlatch

Clearwater County

Clearwater National Forest Supervisor's Office, Orofino
Karl Roenke, archaeologist
Clearwater County Historical Society, Orofino

Other Areas

Colville Tribal Office, Nespelem
Sheney-Cowles Memorial Museum/Campbell House, Spokane
Museum of Native American Cultures, Spokane
Northwest Mining Association, Spokane
Bureau of Land Management, Spokane
Joseph Randolph
Al Martin
Crosby Library, Gonzaga University, Spokane
Ray Kresek, Spokane
Washington Archaeological Research Center, Pullman
Washington State University Library, Pullman
Dr. Alan Smith, Pullman
Nez Perce National Historic Park, Lapwai
Nez Perce Tribal Office, Lapwai
Dr. Gary Palmer, University of Nevada, Las Vegas
Reed College, Portland

The information available from those listed above was virtually unlimited. Unfortunately, the time CRC had to spend on research was not. This time limit forced the researchers to draw lines on the type of sources they were going to utilize. As such, sources that gave a general overview of an area were used and sources such as newspapers were not. Although newspapers probably contain more specific information on the history of the project area, it would have taken far too much time to obtain it. The main problem that occurred for the researchers, which may have been partially the result of not using newspapers and such detailed sources, was that there were themes in the overview for which very little information was available. The development of agriculture in the project area was, for example, one of the themes for which there was little information available in a readily usable form. Communication was another such topic. This disparity was also troublesome when discussing the development of each theme for the specific forest and BLM area. Information was plentiful for one region of the project and on the other hand nearly nonexistent for another. Thus, it looks as if practically nothing happened in a particular area or that the researcher forgot to investigate this theme. Neither one is usually the case. In an overview, such gaps are likely to exist until more detailed research can be carried out.

Once the research and visitation phase of the project was completed, the researchers began to prepare their text. When the individual texts were completed, they were reviewed by members of the research team. Dr. Alan Smith of Washington State University also reviewed a portion of the ethnographic section. After comments were received from the team and the federal agencies, corrections or additions were made by the individual responsible for that portion of the text.

Seven individuals were involved in the development of the text for this volume of the overview. Caroline Carley and Lorelea Hudson were responsible for the Euroamerican history, development of corresponding themes, and historic archaeology. Ms. Carley specifically dealt with Stevens and Ferry Counties, the St. Joe National Forest area, and BLM concerns in Latah and Clearwater Counties. Bonner, Boundary, Kootenai, a portion of Shoshone and Pend Oreille Counties were dealt with by Ms. Hudson. Water transportation was researched and written by Michael Stamper, who was principally involved in the oral history portion of this project. The ethnographic portions of the historic overview were researched and written by Christian Miss, David Chance, and Wayne Choquette. Ms. Miss was responsible for the Nez Perce, Palus, and Coeur d'Alene while Mr. Chance reported on the Spokane and Colville, and Mr. Choquette prepared the section on the Kalispel and Kutenai.

In addition to this task, Mr. Choquette prepared the text concerning the environmental background and the cultural resource synthesis dealing with Native American peoples. Ms. Hudson aided in the preparation of the historic portion of this section in addition to performing the tasks of report editor, and Sharon Boswell was responsible for adding the pertinent oral history information to the cultural resource narrative. The principal investigators for this project were Sharon Boswell and Lorelea Hudson. Ms. Boswell directed the oral traditions overview and Ms. Hudson was in charge of the cultural resource narrative. Cort Sims of the Idaho Panhandle National Forests functioned as the Contracting Officer's Authorized Representative.

A total of 121 person-days was expended during the research phase of this project (Volume I). CRC endeavored to select researchers who had previous knowledge of the area and topics they were assigned. Meetings and discussions took 23 person-days and 4 person-days were expended in preparing interim reports. The initial preparation of the preliminary draft took 65 person-days. Overall, it took 289 person-days to research and write Volume I. The bulk of this work was carried out between May 1980 and January 1981.

ENVIRONMENT

Geology

Most of the area included in this overview is mountainous terrain composed primarily of Belt Series sediments laid down during Precambrian time. Uplift, folding, and faulting some 870 million years ago was accompanied by the intrusion of gabbroic-dioritic dikes and sills. Block faulting which created some of the major structural features of the area, such as the Hope fault, probably also occurred at this time. The Palaeozoic was characterized by a return to deposition of marine sediments which ultimately became quartzites and limestones. In the western portion of the study area, deposition continued into the Mesozoic, but to the east, uplift again occurred and a period of erosion ensued.

The Mesozoic was an era of extensive tectonic activity when most of the major structural features were created. Orogenic forces uplifted and folded the rock strata, then broke them along steeply-dipping thrust faults. Downfaulting produced the major north-south "trenches". Diverse igneous bodies, the largest being the Kaniksu and Idaho batholiths, were intruded with concomitant metamorphism and deformation of adjacent rocks. Solutions charged with mineralizing chemicals moved up through the crust and, when conditions were favorable minerals were emplaced, particularly along faults (Savage 1965).

The ancestral Columbia, Kootenai, and Clark Fork Rivers had established courses along major faults, the latter flowing southward in the Purcell Trench and beginning the erosion of the basin now occupied by Pend Oreille Lake (Savage 1965). The Coeur d'Alene, St. Joe, and Clearwater Rivers had also carved their valleys prior to the Miocene. In the upper Miocene, the Columbia Plateau basalts were extruded and encroached upon the mature dissected landscape, damming preexisting watercourses and creating lakes at the eastern margin of the flow in which the clays of the Latah formation were deposited. The hydrologic base level was thence controlled by the progress of the Columbia and Snake Rivers in cutting their post-Miocene gorges in and around the basalt plateau. Areas of low elevation in the south half of the study area were mantled by a thick blanket of loess which accumulated as the prevailing westerlies reworked lake deposits from the southwestern edge of the basalt plateau (U.S.G.S. 1976:8).

The number and ages of Pleistocene glacial advances are not certainly known. Ice of the Cordilleran Glacier Complex overrode all but the highest peaks during the maximum Wisconsin glaciation (Richmond et al. 1965). Huge lobes of ice extended southward in the major valleys, blocking drainage and creating proglacial lakes. Glacial Lakes Columbia, Spokane, and Missoula were dammed up behind the Columbia River, Colville, and Purcell lobes. The cycle of glaciation and ice damming recurred a number of times but the Bull Lake and Pinedale advances are the only ones well represented by morainal deposits. Bull Lake glaciation reached the valley of the Spokane River while Pinedale glaciation was slightly less extensive (Richmond et al. 1965). Ablation and consequent weakening of the Purcell Lobe ice dam near present-day Clark Fork, Idaho, resulted in the catastrophic release of a great volume of water from Glacial Lake Missoula which swept across the middle part of the study area as many as seven or more times (Bretz 1959), removing the preglacial loess and scouring channels into the bedrock. The last flood left in its wake a massive valley fill of poorly-sorted sediment which dammed up numerous lakes in tributary valleys (Conners 1976). The final stand of Glacial Lake Missoula drained slowly westward as the Purcell Lobe melted back (Conners 1976). After a major stillstand near Naples, Idaho, during which the level of Glacial Lake Kootenai lowered from 2400 feet above sea level (a.s.l.) to about 2200 feet a.s.l. (Alden 1953:140, 152), the ice lobe melted back and the proglacial lake drained northward circa 11,000 before present (B.P.). Pleistocene glaciation was apparently confined to the higher peaks and ridges of the Bitterroot Mountains, producing valley trains or aggraded valley floors in the valleys below. The courses of the major watercourses of the study area are today flanked by Late Pleistocene and Early Holocene erosional terraces produced by downcutting through the proglacial valley fills, and by Holocene alluvial floodplains. Detailed discussions of the chronology of some of these events are to be found in Chance, et al. (1977), Ames and Green (1979), and Choquette and Holstine (1980).

The modern physiography is characterized by a series of alternating north-south trending mountain ranges and valleys extending across the northern portion of the study area. From east to west, the Purcell Trench separates the Purcell and Cabinet Mountains from the Selkirks. The Selkirk Mountain System comprises the Selkirk Range, the Priest Valley, the Pend Oreille Mountains, the Pend Oreille Valley, the Chewelah Mountains, the Colville Valley, and the Huckleberry Mountains (Daly 1912, Raisz 1965). The Columbia River flows southward through the Selkirk Trench, to the west of which are the Kettle Range, the Sanpoil Valley and the Sanpoil Range. The southwestern part of the study area contains the northwesternmost extension of the Columbia Basalt Plateau upon which

the Palouse Hills. The mountains of the southeastern part of the study area are much less regular. Mount Spokane and the surrounding foothills are isolated outliers separated from the Coeur d'Alene Mountains by Rathdrum Prairie. South of the Coeur d'Alene Mountains are the St. Joe and Clearwater Mountains while the eastern border of the study area consists of the Bitterroot Range. Alpine glaciation has carved a rugged topography in the Bitterroot, Cabinet, Purcell, and Selkirk Mountains which attain elevations exceeding 7000 feet a.s.l. The mountains to the west of these display a more subdued topography with rounded summits seldom exceeding 6000 feet a.s.l. Floors of the major valleys range from 2400 feet a.s.l. in the St. Joe Valley at St. Maries, 2070 feet a.s.l. in the Pend Oreille Valley at Cusick, and 1933 feet a.s.l. in the Spokane Valley at Spokane (Faisz 1965). The Columbia River at Kettle Falls is about 1230 feet a.s.l. while the North Fork of the Clearwater River near its confluence with the main stem is about 900 feet a.s.l.

There are numerous lakes in the study area. A number of small lakes and ponds occupy scoured Spokane flood channels while others such as Coeur d'Alene, Hayden, Liberty, Spirit, and Newman were dammed by flood debris at the mouths of tributary valleys. Two of the largest lakes, Priest and Pend Oreille, occupy glacially-scoured basins dammed by morainal deposits. The basins themselves, as well as innumerable small depressions throughout the western part of the area occupied by small lakes, ponds, and bogs, are the result of melting of blocks of stagnant ice.

Most of the mountainous area contains minerals economically important to both lithic and metallurgical technologies. Certain of the siliceous Precambrian sedimentary rocks as well as later quartzites are eminently suitable for flaking into tools as are crypto-crystalline silicates obtained from parent limestones and basalt. A source of ignimbrite/bitrophyre occurs near the summit of the Bitterroots north of Lolo Pass. Igneous and metamorphic rocks useful in manufacturing pecked and ground stone tools and utensils include diorite, granite, quartzite, argillite, and soapstone. Silver, lead, zinc, copper, and gold are important metals which occur abundantly throughout the mountains in the eastern and northern parts of the study area.

Climate

The study area is under the influence of Pacific Maritime air masses for most of the year, resulting in a relatively moderate climate for the latitude. Infrequently, dry continental air masses enter from the north or east. Extremes in both summer and winter temperatures generally occur when the area is under the influence of air from over the continent (Phillips 1965).

The westerlies carry moisture, laden air inland along the North Pacific storm track, depositing abundant amounts of precipitation during fall, winter, and spring. Most precipitation is orographic, resulting in a definite clinal distribution from the semi-arid Columbia Basin northward and eastward to the well-watered higher elevations. Roland in Shoshone County has the highest average annual precipitation in Idaho (50.8 inches/128.9 cm) (Rice 1971). In the winter, some influence of the Arctic air mass is felt, particularly in the northeastern part of the area and most precipitation in the mountains falls as snow. Spring runoff is consequently heavy. The greatest long-term average of seasonal snowfall in Idaho, as well as the greatest snow depth (both 182 inches/462 cm) were recorded at Mullan Pass (Rice 1971).

In summer, development of a high pressure ridge off the Pacific coast shunts the storm track northward. The summer months are therefore characterized by dry, sunny weather. Precipitation at this time of year is mainly convective, the product of thunderstorm activity.

Climatic statistics for representative stations in the study area are presented in Tables 1 and 2.

Palaeoenvironment

A Holocene palaeoenvironmental record for the study area may be reconstructed from palynological and sedimentological data.

Richard Mack and his colleagues have cored a series of bogs across the northern part of the study area in the Sanpoil, Colville, Pend Oreille, and Priest Valleys (Mack et al. 1978a, 1978b, 1978c, 1978d). The cores reveal that vegetation was established in the study area by the time of the Glacier Peak ash fall (circa 11,250 years before the present) (Mehring et al. 1977). The early vegetation consists of an *Artemisia* - Gramineae - Haploxylon pine association. This association is somewhat anomalous, having no modern analogues (Mack et al. 1978b:503) but was widespread throughout northern North America south of the ice front. It apparently represents a tundra-like postglacial successional community in a cool, moist climate which was replaced about 10,000 years ago when the climate began a warming trend.

A significant warm and dry climatic interval, variously known as the Altithermal or Hypsithermal Interval, occurred between about 8300 and 4500 years ago. The pollen profiles reveal peaks in frequency of Gramineae, *Artemisia*, and *Diploxylon* pine. The deposition of Mazama ash in the study area 6700 years ago (Fryxell 1965) provides

TABLE 1

Normal Temperatures for Representative Stations (Fehrenheit)
(from Phillips 1965 and Rice 1971)

	J	F	M	A	M	J	J	A	S	O	N	D	Annual
Bonniers Ferry	23.0	26.8	37.2	45.7	52.4	58.4	63.8	62.8	55.0	45.3	35.2	26.1	44.3
¹¹ Sandpoint	25.6	29.2	36.0	45.8	53.8	59.3	65.3	63.4	56.1	46.1	34.9	29.7	45.4
Coeur d'Alene	27.5	30.8	37.6	46.9	55.4	61.3	69.1	67.8	59.6	48.7	36.8	31.7	47.8
Kellogg	27.2	31.5	38.1	47.0	55.1	60.8	68.2	66.1	58.6	48.4	36.3	31.2	47.4
Moscow	28.2	32.5	38.9	47.1	54.4	60.0	67.3	56.6	59.2	49.5	37.8	32.4	47.4
Northport	25.1	29.5	39.0	49.4	58.0	63.6	70.2	67.9	59.9	48.7	35.6	29.4	48.0
Chewelah	23.3	28.5	38.2	47.2	55.2	60.7	66.6	64.4	57.3	46.7	34.6	28.4	45.9
Spokane	25.3	30.0	38.1	47.3	56.2	61.9	70.5	68.0	60.9	49.1	35.7	30.1	47.8

TABLE 2

Normal Precipitation Totals for Representative Stations (inches)
(from Phillips 1965 and Rice 1971)

	J	F	M	A	M	J	J	A	S	O	N	D	Annual
Bonniers Ferry	3.16	2.24	1.76	1.11	1.37	1.62	.78	.78	1.26	2.41	3.08	3.51	23.08
Sandpoint	4.49	3.30	2.97	1.97	2.05	2.33	.63	.83	1.71	3.37	4.21	4.88	32.74
Coeur d'Alene	3.42	2.52	2.34	1.71	2.04	1.93	.66	.72	1.35	2.50	3.20	3.74	26.13
Kellogg	3.61	2.92	2.97	2.38	2.41	2.42	.83	.83	1.70	3.18	3.71	4.01	30.97
Moscow	2.80	2.14	2.12	1.69	1.63	1.74	.51	.52	1.24	2.03	2.64	3.15	22.21
Northport	2.16	1.55	1.43	1.27	1.69	2.19	.80	.84	1.23	2.04	1.99	2.27	19.46
Chewelah	2.52	1.83	1.70	1.29	1.67	1.58	.64	.59	1.08	1.85	2.34	2.73	19.82
Spokane	2.44	1.86	1.50	.91	1.21	1.49	.38	.41	.75	1.57	2.24	2.43	17.19

a useful temporal marker for interpretation of other environmental responses to the Altithermal. Daubenmire and Daubenmire (1968:6) suggest that windward slopes of the low elevation hills were too thinly vegetated at this time to prevent transfer of the ash to lee slopes since the ash lies mainly on leeward slopes. The occurrence of charcoal strata both immediately above and below Mazama ash in the Kootenai River floodplain indicate that this period was characterized by frequent forest fires (Choquette and Holstine 1980:14).

A return to cool and moist conditions between 4000 and 2000 before the present is revealed by peaks in *Abies* and *Picea* in the pollen profiles and by increased discharge in the Kootenai (Choquette and Holstine 1980:15), Columbia (Chance et al. 1977:172), and Clearwater (Ames and Green 1979:10) Rivers. Frequency of forest fires in the Kootenai drainage was apparently low.

The pollen profiles suggest that modern vegetation has been present from about 2000 B.P. onwards. Forest fire frequency in the Kootenai drainage increased compared to the previous period. Most palaeoenvironmental studies in the region have not recognized the existence of a significant period of cooler and moister climate between circa 1600 and 1870. However, this interval, the Little Ice Age, is well defined in glaciological records of the Cascade and Rocky Mountains (see Vierøck 1967; Denton and Porter 1970) and is represented by the accumulation of a sandy alluvial terrace on the Kootenai River displaying little evidence of forest fires (Choquette and Holstine 1980:16). A brief return to warmer and drier climatic conditions occurred from about 1870 to 1940 when forest fires were again extensive. Today's conditions reflect a cooling trend compared to the early part of this century.

Flora

The present vegetation of the study area is the result of climatically induced migrations modified by the effect of human behavior. The original temperate mesophytic forest of the mid-Cenozoic was disrupted by gradual global cooling and the creation of a rainshadow when the Cascade Mountains were uplifted. These events provided opportunities for an influx of xerophytic herbs and shrubs of boreal origin into the now arid, but cool lowlands (Daubenmire 1975:7). In the Altithermal interval (circa 8000-5000 B.P.) a number of strongly thermophilic xerophytes were able to immigrate from the south (Daubenmire 1975:10). Until the advent of Euroamerican settlement, ungulate pressure played no significant part in the evolution

The middle elevations support a forest dominated by survivors of the Cenozoic temperate mesophytic vegetation. These include *Tsuga heterophylla*, *Abies grandis*, *Thuja plicata*, and *Taxus brevifolia* with an understory consisting mainly of *Pachistima myrsinites*, *Amelanchier alnifolia*, *Disporum oregonum*, *Acer glabrum*, *Trillium ovatum*, *Tiarella unifoliata*, *Vaccinium membranaceum*, *Oplopanax horridum*, and *Osmorhiza chilensis* (Daubenmire 1975:4). In these forests, *P. menziesii*, *P. ponderosa*, *P. monticola*, *P. contorta*, and *Larix occidentalis* are seral species. According to Daubenmire and Daubenmire (1968:32), *P. monticola* is the most valuable timber species in the study area, and the greatest volume of such timber has undoubtedly been harvested from the *Tsuga* - *Pachistima* habitat type.

Coniferous forests at higher elevations are dominated by *Abies lasiocarpa*, *Tsuga mertensiana*, *Picea engelmannii*, and *Pinus albicaulis*. *Xerophyllum tenax*, *Vaccinium membranaceum*, *V. Scoparium*, *Menziesia ferruginea*, *Rhododendron albiflorum*, and *Ledum glandulosum* are characteristic understory species of the high altitudes. Two types of upper timberline occur at the periphery of the study area. On the highest peaks of the Selkirks, Cabinets, and Purcells where low temperatures are the factor limiting tree growth, a fringe of *Larix lyallii* often occurs, above which alpine tundra prevails. Certain other peaks and ridges around 6000 feet mean sea level (m.s.l.), particularly in the Purcells and Bitterroots, support a high elevation grassland which is a response to a combination of climatic and topographic factors, producing a drought microclimate. These xerophytic communities are dominated by some of the same herbs found in the steppes of the basal plain yet also contain a flora characteristic of only these habitats in the study area (Daubenmire and Daubenmire 1968:50).

Deciduous riparian communities dominated by *Populus tremuloides* and *Salix* spp. flank watercourses throughout the study area, and in mountainous terrain seepage areas in shallow ravines support dense stands of *Alnus sinuata* along with *Acer glabrum*, *Sambucus cerulea*, *Sorbus scopulina* and *Salix* (Daubenmire and Daubenmire 1968). Poorly drained valley floors or morainic ponds are dominated by *Carex* and *Spirea douglasii* or by *Sphagnum*.

Fauna

The great environmental diversity of the study area provides habitat for a correspondingly diverse fauna.

Both mule and whitetail deer (*Odocoileus hemionus* and *O. virginianus*, respectively) are present. Important winter ranges for the latter species occur in the deciduous bottomlands of the major

watercourses, an important consideration from the perspective of aboriginal subsistence. Elk (*Cervus canadensis*) are abundant in the Coeur d'Alene, St. Joe, Clearwater, and Bitterroot Mountains. Ethnohistoric evidence (Suckley 1855, Teit 1930, Schaeffer 1940) suggests that deer were becoming more numerous during historic times while elk populations may have been declining.

Moose (*Alces alces*) are scattered in small numbers throughout the forested portions of the study area while mountainous terrain supported populations of bighorn sheep (*Ovis canadensis*) and mountain goat (*Oreamnos americanus*). In addition, caribou (*Rangifer tarandus*) inhabited the Purcell and Selkirk Mountains. Bison (*Bison bison*) and pronghorn (*Antilocapra americana*) were present on the Columbia Plateau during prehistoric times (Schroedl 1973), their ranges extending into the southwestern part of the present study area. Teit (1930:96) records the killing of two bison near Tekoa, Washington in 1815.

Other large mammals include: grizzly and black bear (*Ursos arctos* and *U. americanus*, respectively), gray wolf (*Canis lupus*), Coyote (*C. latrans*), mountain lion (*Felis concolor*), lynx and bobcat (*Lynx canadensis* and *L. rufus*, respectively), and wolverine (*Gulo luscus*). A number of furbearing mammals inhabit the study area: beaver (*Castor canadensis*), mink (*Mustela vison*), river otter (*Lutra canadensis*), Marten and fisher (*Martes americana* and *M. pennanti*, respectively), muskrat (*Ondatra zibethicus*), and weasels (*Mustela* spp.). A variety of small mammals including squirrels (*Tamiasciurus hudsonicus*, *Citellus columbianus*, *Callospermophilus lateralis*), chipmunk (*Eutamias amoenus*), pocket gopher (*Thomomys talpoides*), striped skunk (*Mephitis mephitis*), snowshoe hare (*Lepus americanus bairdii*), hoary marmot (*Marmota caligata*), bats (*Myotis* spp.), and shrews (*Sorex* spp.) are also present.

A diverse avifauna, species too numerous to mention, seasonally inhabited the study area. Those of potential importance to human populations include: Canada geese (*Branta canadensis*), ducks (*Anas* spp.), grouse (*Dendragapus obscurus*, *Bonasa umbellus*, *Pedioecetes phasianellus columbianus*, *Canachites canadensis franklinii*), chukar (*Alectoris graeca*), eagles (*Haliaeetus leucocephalus alascanus*, *Aquila chrysaetos canadensis*), and falcons and hawks (*Falco* spp. and *Accipiter* spp.).

Four species of salmon (*Oncorhynchus tshawytscha*, *O. kisutch*, *O. nerka*, and *O. keta*) ascended the North Fork of the Clearwater (Hynes 1970); the former three also ran up the Columbia into the study area (Fulton 1968, 1970; Louie, Bouchard, and Kennedy 1975). Steelhead (*Salmo gairdnerii*) also ascended these rivers. Falls on the lower reaches of the Kootenai, Pend Oreille, and Spokane Rivers prevented

the ascent of salmon into their upper reaches. Non-anadromous fish include: Dolly Varden (*Salvelinus malma*), Cutthroat and rainbow trout (*Salmo clarkii* and *S. gairdnerii*), whitefish (*Prosopium williamsoni*), suckers (*Catostomus* spp.) and minnows. Freshwater molluscs (*Margaritifera* spp.) were present in parts of some major watercourses.

S U M M A R Y O F P A S T A N D C U R R E N T W O R K

Past Work

North Idaho

Documentation of archaeological sites in north Idaho occurred as early as the late 1880s. The source for this report was John B. Leiberg, a geologist engaged in surveying and assessing the forest areas of north Idaho who, in 1893, described petroglyphs on Lake Pend Oreille. It was nearly 20 years before another discussion of north Idaho archaeology appeared. This article, by H.J. Rust, appeared in 1912 and dealt with cultural resources in the Lake Pend Oreille and Lake Coeur d'Alene areas (Rust 1912).

The next archaeological project appears to be the survey of the Albeni Falls Reservoir along the Pend Oreille River which was part of the River Basin Survey program (Shiner 1960, 1953). Other archaeological studies carried out in the 1950s were performed by Miller (1953, 1959) and Tuohy (1958a,b). Miller's work involved a brief discussion of a number of prehistoric sites and four burial sites in Kootenai County. Tuohy's work involved the survey of a natural gas pipeline in the same county.

Very few archaeological studies took place during the 1960s. In 1961, O.L. Mallory conducted an archaeological survey of Pacific Gas Transmission Company's Alberta to California pipeline. Several years later, Earl Swanson (1968) of Idaho State University secured a grant from the American Philosophical Society to conduct an archaeological survey in north Idaho. The only other contribution during this decade was a paper written by Dr. Allan Smith (1960) dealing with Kalispel sites on Lake Pend Oreille and in the Clark Fork area. This discussion was based on Smith's fieldwork conducted in the 1930s.

The first of numerous cultural resource contract projects and a few number of scholastic studies were conducted during the 1970s. The first of these was performed by Dale Fredlund and William LaCombe in 1970 in the Bitterroot Mountains along the Montana-Idaho border. Several sites located during this survey were in the Idaho Panhandle National Forests (Fredlund 1971). Mario Delisio (1974) conducted an archaeological survey of the Lake Pend Oreille area for the Seattle District, U.S. Army Corps of Engineers in the early 1970s. This project was followed by a test excavation along the Pend Oreille River that was supervised by Richard "Duke" Snider of North Idaho College (unpublished). The Department of Sociology/Anthropology of the

University of Idaho conducted a series of excavations at the Mission of the Sacred Heart near Cataldo, Idaho. These excavations were carried out in 1973 (Fielder and Sprague 1974) and 1974 (Weaver 1977) as part of the Mission restoration project sponsored by the Idaho Bicentennial Commission. Other projects carried out in north Idaho include an Idaho Department of Highways survey for cultural resources in the area of the proposed replacement of the Kootenai River bridge in Bonners Ferry (Jenna Gaston: personal communication) and University of Idaho surveys of water and sewer projects in Avery (Knudson and Stapp 1977) and Hayden Lake (Knudson and Marti 1978). The Corps continued studies along the Pend Oreille by contracting test excavations at the Riley Creek campground, and just east of Priest River. The former project was carried out by the University of Idaho (Knudson et al. 1979), and the latter by Cultural Resource Consultants, Inc. (Hudson et al. 1980). CRC also surveyed water and sewer projects in Clarkia and Caulder (Hudson 1980). And most recently, the Washington Archaeological Research Center prepared a cultural resource overview of a proposed transmission line from Libby Dam, Montana, to Rathdrum, Idaho, (Choquette and Holstine 1980) for the Bonneville Power Administration.

The year of 1974 marked the beginning of cultural resource contracting by the Idaho Panhandle National Forests. The first of these projects was an overview of the northern Idaho portion of Region 1, U.S. Forest Service (Rice et al. 1974). This was followed by more specific overviews of the Sandpoint Planning Zone (Renk and Roubicek 1975) and the St. Maries Planning Zone (L. Hudson 1975). The University also conducted cultural resource surveys along the Priest (Marti 1976a), Moyie (Marti 1976b), and St. Joe Rivers (Rice et al. 1977) as part of the Wild and Scenic Rivers process. These projects were followed by a number of cultural resource surveys conducted by the University of Idaho on selected timber sale and land exchange parcels within the Idaho Panhandle National Forests (Boreson 1976a, 1976b, 1977; Rice 1979). These forests also contracted timber sale and land exchange surveys to Cultural Resource Consultants (Hudson 1978; Hudson et al. 1979). Recent projects on the Idaho Panhandle National Forests include the testing of site 10-BY-151 (Brantley Jackson: personal communication), an oral history overview (Barton 1980) and a synopsis of past cultural resource activities on the Forest (Sims 1980). Other projects specifically related to the Forest Service include an overview of the Clearwater National Forest (T. Hudson 1975), the mapping and collecting of Harvey Mountain Quarry (Knudson 1976), the history and archaeology of Gold Butte Lookout on the Palouse District of the St. Joe National Forest (Waldbauer 1980), and a short history of the incline railroad on Marble Creek also in the St. Joe National Forest (Pfeiffer 1980).

The Idaho Panhandle National Forests began hiring summer archaeological technicians in 1976. Over the years, these individuals have surveyed thousands of acres and recorded numerous sites (see Sims 1980). The Bureau of Land Management, Coeur d'Alene District, has conducted a number of surveys in north Idaho which have yielded historic and prehistoric sites. Dan Hutchison, current BLM archaeologist, has conducted some studies on the "Skitwish Monuments" in the St. Joe-Coeur d'Alene area.

Sandra Crowell and David A. Asleson have written a book, *Up the Swiftwater*, recently published, which is a pictorial history of Avery and the upper St. Joe Valley based on seven years of research with interviews and documents. This book covers the Coeur d'Alene and Nez Perce tribes, mining and prospecting in the upper St. Joe, homesteading, the town of Avery, the Milwaukee Railroad, logging, the 1910 fire, the Civilian Conservation Corps (CCC), and the Forest Service. More recently, Mr. Asleson, in collaboration with a Washington State University graduate student, has completed a history of lookouts on the St. Joe National Forest. Claude and Catherine Simpson have also published a book in the past few months. This selection discusses the men and women of the Priest Lake country and is based on interviews with past residents of the area. Gary Palmer of the University of Nevada recently completed a research project dealing with Coeur d'Alene Indians as farmers between 1877-1940. This project was funded by the Association for the Humanities in Idaho, and the results are being presented in a series of articles in *Council Fires*, the newspaper of the Coeur d'Alene tribe.

Northeastern Washington

Little archaeology has been done in the northeastern Washington portion of this project area and few sites have been recorded, though certain areas near the Forest boundaries, such as the Lake Roosevelt area, have been extensively recorded and intensively excavated. Surveys and excavations in the Lake Roosevelt area have been taking place since 1939 (Collier et al. 1942). Primarily prehistoric sites have been reported along the banks of the Columbia River (Chance 1967; Rice 1968; Ross 1969; Chance 1970; and Chance et al. 1977). Excavations of the Hudson's Bay Company's Fort Colville and the fishery site of Kettle Falls, so important to the history of northeastern Washington, are reported in Chance and Chance (1977).

Other sites outside of the Colville National Forest, mainly on BLM land, have been reported by Lyman (1977) and BLM archaeologists. In 1978, Cultural Resource Consultants conducted the cultural resource survey of the Kalispel Trail (Ayers et al. 1979) and a timber sale area in Pend Oreille County (Hudson 1978). Much earlier, Richard Daugherty of Washington State University conducted an archaeological survey of the Boundary Dam Reservoir (Daugherty 1962). Archaeologists from the Idaho Panhandle National Forests and Cultural Resource Technicians from the Colville National Forest have recorded numerous sites in northeastern Washington over the last several years.

In 1976, the Colville National Forest contracted with the Washington Archaeological Research Center to produce a culture resources inventory (Giniger et al. 1976). Sites within this forest are also mentioned in a study on CCC camps within Region 6 (Throop 1979).

Current Work

North Idaho

The Idaho State Historical Society has been conducting surveys of historic sites in the state since at least the late 1960s. As this work continues, it is generally confined to private land but, at times, does include federally-managed sites. Washington State University has been involved in a public interpretive planning project of the Marble Creek area for the St. Joe National Forest. During the past two years, the University of Idaho has been involved in a cultural resource overview of Boundary County. Other current studies include the monitoring of Pacific Gas Transmission's pipeline between Cocolalla and Naples which is being conducted by Brantley Jackson, a private consultant archaeologist in Cheney, Washington, and the survey of Bonneville Power Administration's proposed transmission corridor between Libby, Montana, and Rathdrum, Idaho, and the test excavations of selected sites along this route by the Bonneville Cultural Resources Group from Eastern Washington University in Cheney.

Northeastern Washington

Current work in Ferry and Stevens Counties includes a cultural resources inventory through the County Planning Commission undertaken by Madilane Perry in Republic and Claudia Himmelberg in Colville. Current public programs in the Colville National Forest include a Log Flume Trail in the Kettle Falls Ranger District, and a Springboard Trail in the Colville Ranger District.

Other Areas

Ray Kresek of Spokane, Washington, is currently researching lookouts in Washington, Oregon, Idaho, and Montana. This inventory of lookouts in the Northwest will be published in a book which will culminate 27 years of research. *Where Have All the Lookouts Gone?* will discuss site location, dates, structure, status, and stories concerning lookouts. The information on 3,400 lookout sites in four states will also include photographs of lookout structures dating back to 1902.

P R E S E N T R E S E A R C H O R I E N T A T I O N S

In general, the bulk of cultural resource work taking place in the project area is being conducted on a project-by-project basis and is the result of a particular proposed impact. "Pure" culture resource research is rare. The problem with the former type of work is that the results have not been adequately synthesized. Although the number and type of sites located may be known, their specific features and orientations have yet to be compared and analyzed. This is an enormous task and funds for this type of work are hard to come by. However, such an endeavor would greatly increase the data base and improve site predictive models, as well as aiding in the determination of site eligibility to the National Register of Historic Places.

In an effort to increase this data base and to pinpoint problem areas and gaps in the culture history, the Idaho State Historic Preservation Officer (SHPO) has instituted a state-wide overview project. The goals of this project include prehistoric, ethnographic, and historic resources. The object is to have individuals with area expertise synthesize the data, point out the gaps and problems, and to suggest possible research problems or goals for that area or particular topic of which they are knowledgeable. The organization and collection of this data has been going on for several years and a specific date for its conclusion is unknown.

As part of the County Planning Commissions' programs in Washington, the cultural resources of each county are being inventoried. These projects are conducted in each county as funds and staff permit. Other than this program, there does not appear to be a single research design for northeastern Washington.

COLLECTIONS

Ferry County

Louise Hesse Memorial Library - Republic

The library has a limited collection of Washington history books. All photographs acquired by the library are given to the Ferry County Historical Society.

Ferry County Historical Society - Republic

Two buildings house the collections of the Ferry County Historical Society Museum. One building is a small log house of nineteenth century vintage with collections of bedroom and kitchen furniture and associated artifacts. This building also contains a collection of photographs of towns in the county. A large warehouse has a collection of mining equipment which is very extensive and extremely informative. The historical society is writing a history of the Republic area.

Stevens County

Stevens County Historical Society - Colville

The historical society's museum contains a large group of exhibits covering prehistoric times to early twentieth century. Among the collections is a picture gallery of mounted photographs of Stevens County towns, cities, people, farming, mining, and lumbering. The museum's displays are based on themes of geology, Indians, exploration, fur trade, agriculture, pioneer life, missions, schools, mining, lumbering, and the history of Pinkney City and Colville. There are extensive displays of agricultural equipment and of the pioneer kitchen, living room, and bedroom. There is also a small research library with files of newspaper articles featuring Stevens County history. Also, a large "estate" house is opened for tours in the summer. The museum houses elsewhere, a collection of machine and farm equipment which is open for viewing in the summer months.

Colville Public Library - Colville

This library has an extensive collection of secondary sources of publications and manuscripts in the Northwest collection and Reference Section. These sources cover Washington history, Northwest history, and Stevens County history as well as much mining history.

Colville National Forest Supervisor's Office - Colville

Collections at the Supervisor's Office include General Land Office (GLO) plat maps and survey notes for the forest, land status maps, warranty deeds for each homestead patent applied for on National Forest land, mining survey plats, historic timber inventory maps, Metskers maps of Stevens, Ferry, and Pend Oreille Counties, original blueprints of historic buildings associated with the Forest Service (CCC in particular), and miscellaneous historical files containing inquiries and work conducted by Forest Service personnel interested in the history of the agency and the area. An archaeological site file and a limited archival collection of secondary sources is also available.

A collection of historic photographs is maintained in the Supervisor's Office, though detailed information of places, dates, and areas has been lost. Within the Colville National Forest, these photographs show roads and trails, CCC camps, and recreation areas. Skidding logs with horses, log slides, steam donkeys, and lookout towers are also represented in the photographic collection.

Chewelah Museum - Chewelah

This is a large museum of historic displays and photographs. The photographic collection consists mainly of Chewelah photos, old school-houses, and a large mining operation nearby. Artifacts on display include those of mining, lumbering, and agricultural equipment with labels explaining their uses. A number of household artifacts have been displayed as well as a doctor's office and collection of books. Most of the material is displayed on shelves rather than in closed cases.

Kettle Falls Historical Commission - Kettle Falls

To date, this historical society does not have a building to house collections. They are primarily concerned with raising money for a structure in which to display Kettle Falls prehistoric artifacts.

Spokane Tribal Museum - Wellpinit

An ongoing tribal cultural preservation program of the Spokane Tribe is focused at this museum. It includes Indian languages classes, cultural programs, a formal compilation of tribal history, and offers a library.

Pend Oreille County

Sullivan Ranger Station - Sullivan Lake

The Sullivan Ranger Station has a few miscellaneous historic maps and GLO maps and notes. A file of historic material and a series of 1930s black and white aeriels are also available.

Newport Ranger Station - Newport

This ranger station has very few historic maps but does have GLO maps and notes. A number of boxes containing old deeds and various other historic materials dealing with forest administration are also available.

Soil Conservation Service - Newport

This agency has various planning documents that generally detail the historical development of this area. One of the tasks this agency has performed is the classification of all soils in the county. This has resulted in a general soil profile of specific areas in the county and is on display in the office.

Pend Oreille County Historical Society - Newport

The majority of collections at this museum relate to the early settlement of pioneer period of Pend Oreille County. There are, however, some displays of Native American artifacts. The society also has a number of historic photographs as well as some historic research materials. Since 1969, the historical society has been involved in the publication of *The Big Smoke* which is a magazine dealing with the history of the county. The articles in this magazine are written by past and present residents of the area and can be purchased at the museum.

Metalline Public Library - Metalline Falls

The collection at this library contains a number of books pertaining to the history of the area that were written by local residents. This library also offers a collection of old newspapers.

Boundary County

Boundary County Library - Bonners Ferry

This library contains an excellent collection of local and regional history for an institution its size. A collection of newspaper articles dealing with the history of Boundary County by local historian, Paul Flynn, is also available for use in the library.

Boundary County Historical Society - Bonners Ferry

This museum is located in the basement of the Boundary County Library. It possesses a collection of artifacts dealing with early pioneer life, specifically the domestic aspect. There are also Native American artifacts of the prehistoric and historic periods as well as photographs.

Bonners Ferry Ranger Station - Bonners Ferry

The early black and white Forest Service aerials for this district are located at this station. There are also several "historic" maps that show some of the older Forest Service trails and lookouts.

Othe Locations - Bonners Ferry

Visits were made to the Soil Conservation Service, the Agricultural Extension Office, and the Farm Home Administration and no pertinent resources were located. Given more time, one could probably obtain some valuable information from these agencies. At the present, much of this information is not synthesized.

Bonner County

Sandpoint-East Bonner County Library - Sandpoint

This county library possesses an excellent Northwest collection for an institution its size. Metaskers maps are located in the library as are newspaper clippings dealing with history, archaeology, and various aspects of the county. A resource file listing individuals with various skills such as harness maker or log construction is also available here.

Bonner County Historical Society and Museum - Sandpoint

This historical society has a small library of selected books dealing with county history in addition to a few family histories. There also is an historical file made up of various articles of interest and news clippings. In addition, the society has a photographic collection representing various lifeways of the county and copies of the local newspaper. The museum maintains an exhibit area which displays Native American occupations, fur trading, steamboating, mining, and homesteading in Bonner County.

Sandpoint and Priest Lake Ranger Stations

These ranger stations have some old Forest Service maps showing trails and lookouts as well as early aerial photographs.

Poirier Museum - Blanchard

This private museum has a collection of early farming tools and machinery.

Kootenai County

North Idaho College Library - Coeur d'Alene

Although this is a small library, it does contain a number of the standard books pertaining to north Idaho history.

Museum of North Idaho - Coeur d'Alene

This museum has some very good displays on mining, logging, homesteading, and the steamboating era on Lake Coeur d'Alene. It does house some research material and an excellent photographic collection.

Bureau of Land Management - Coeur d'Alene District - Coeur d'Alene

This BLM office has GLO maps (notes are available from Boise), mineral entry surveys, and Master Title Plats. There does not appear to be a photographic collection in this district office.

Idaho Panhandle National Forests, Supervisor's Office - Coeur d'Alene

The Supervisor's Office is a storehouse of information resources. In addition to the archaeological site file and records, historic materials include forest atlases from the 1910s, numerous historic maps that are not bound, GLO maps and notes, homestead entry plats, land status records, older recreation survey and planning maps, and mineral survey maps. The Supervisor's Office also has an extensive collection of photographs taken by Forest Service personnel of various subjects. The mineral division in the Supervisor's Office has a computer printout and code maps that show and explain different mine locations in the forests. Each of the various specialty areas in the Forest Service offer information that can be used in the field of cultural resource management. These resources are much too numerous to list in this paper. The Supervisor's Office also has a library which does possess information dealing with cultural resources.

Mission of the Sacred Heart, near Cataldo

The Cataldo Mission was restored in 1973-74 and is open to the public. A small artifact collection and slide tape show are available for viewing by visitors and interpretive signs dot the Mission grounds.

Shoshone County

Mining Museum - Wallace

This small museum has informative displays that demonstrate the development of hard rock mining in the adjacent area. Other displays include tools, some domestic items, and a few artifacts from the early mining troubles in the Silver Valley.

Wallace Public Library - Wallace

This library houses a small collection of books and is trying to collect old photographs of the Wallace area.

Wallace Ranger Station - Silverton

This station has various maps, showing old Forest Service trails, lookouts, ranger stations, and administrative sites.

Skrappole Bar - Murray

This establishment has a large adjoining building containing a number of historical artifacts related to local history. There are a large number of old mining tools and other equipment.

Latah County

Archive of Pacific Northwest Archaeology-University of Idaho - Moscow

This is an extensive archival collection of newspaper articles, reports, and publications dealing with archaeology throughout the Pacific Northwest. Archival material is filed geographically and catalogued both geographically and by subject. Thus, all material relevant to Idaho or Washington can be found together and collections are made easy to work with. Files include all manuscripts and records of the Laboratory of Anthropology and publications of other Northwest institutions on archaeology.

Laboratory of Anthropology-University of Idaho - Moscow

The Laboratory of Anthropology has site files of recorded and potential sites which are mapped and filed by county. The laboratory retains notes, records, and photographs of many of the projects conducted through the University of Idaho. A type collection of historic artifacts, especially ceramics and glass, also exists within the laboratory.

Latah County Library - Moscow

The library collections include local history publications and general references on mining, logging, Idaho history, cabin construction, and Forest Service history. The library also has a collection of Idaho newspapers.

Latah County Historical Society - Moscow

The historical society has a large collection of publications of general Idaho history and special publications by local residents on local history of various parts of Latah County. A small collection of photographs covers towns within Latah County. Lumber operations are also depicted in a number of photographs. An extensive collection of oral histories, records of births, deaths, and marriages in the area has been gathered. Exhibits and a small collection of material culture items pertaining to homesteading, logging, and mining are housed at the historical society.

University of Idaho Library - Moscow

The University of Idaho Library carries a large collection of books on Idaho history, logging, mining, public domain, and Forest Service history. Special Collections and the Northwest Collection include sources of local and oral history. The University of Idaho Library also houses the Barnard-Stockbridge photographic collection. This collection consists of 200,000 nitrocellulose and glass plate negatives taken by Mr. T.N. Barnard and Miss Stockbridge in the Wallace-Kellogg area from 1894-1964. Various aspects of mining life is one of the major areas of concentration. To date, 12,000 prints have been catalogued and are available for sale.

Potlatch Ranger Station - Potlatch

Files at this station include brief histories of the ranger district which contributed to Rollo Perkins' book on the Potlatch Ranger District. These histories of Forest Service personnel continue to be collected. There are a number of small publications on file which apply to the history of the area and have been carefully collected. There are also files of limited information on the history of logging and mining and publications dealing with the technicalities of describing such activities. This collection of secondary publications represents the most extensive accumulation of historical and artifactual information seen by the CRC research team in national forest ranger district.

Clearwater County

Clearwater National Forest Supervisor's Office - Orofino

The office has a small library of secondary sources covering the greater Orofino area.

Clearwater County Historical Society - Orofino

This is a small museum with displays of artifacts and photographs which tell the stories of mining, lumbering, and pioneering in the area. The collection is fairly small and limited in information, though there are some excellent photographs of logging camps. A few oral history records are on file.

Other Areas

Cheney-Cowles Memorial Museum/Campbell House - Spokane

This museum has historic, prehistoric, and natural history displays along with a library that specializes in Pacific Northwest history. In addition, the library has a photographic collection which covers a variety of subjects. Nearly 80 to 85 percent of the museum collections is associated with Native Americans from the general Plateau Culture area. The museum also houses the archaeological collections from the Collier, Hudson, and Ford work and the excavations at Spokane House between 1950-1954.

Museum of Native American Cultures - Spokane

This museum presents displays on numerous Native American groups from all over the country. Although there is no research library at the present, one is planned for the future.

Northwest Mining Association - Spokane

This organization carries a number of publications dealing with the mineral industry and mineral locations in the Northwest. Its publications appear as if they would be of value in cultural resource studies.

Bureau of Land Management - Spokane

Resources available at this office include a photographic file dating back to the 1950s, various archaeological files dealing with survey projects and specific sites, GLO maps and notes, mineral survey index, historic index (changes in land ownership), index to patented claims, Metaskers map, mineral survey maps, some homestead entry plats, Indian allotment information, and vegetation maps. BLM also has a set of U.S. Statutes at Large from 1845 to 1966, and a set of Indian Treaties - Decisions of the Department of Interior from 1881 to 1978. These volumes are part of the small BLM library.

Crosby Library, Gonzaga University, Oregon Province Archives - Spokane

This archive includes correspondence between missionaries and the Catholic Church and U.S. government officials. Diaries, reports from missions, and notes are available in addition to the papers of Juset DeSmet, Cataldo, and Giorda. The Indian language collection includes dictionaries, grammar books, and catechisms.

Washington Archaeological Research Center - Pullman

This center has on file the recorded sites in Washington and reports and publications pertaining to these sites. The files are accessible and easy to use and all sites are mapped.

Washington State University Library - Pullman

This library possesses secondary sources on Washington history and a limited collection of general sources pertaining to mining, logging, and Forest Service history. The Northwest Collection does contain some original pioneer information relating to the project area as well as photographs of small towns in Washington, although those of the north-eastern part of the State are nearly nonexistent.

CULTURAL RESOURCE NARRATIVE

This section of the overview deals with the ethnographic and historic themes and lifeways of the people who have inhabited the project area since the time of Euroamerican contact. The information collected by the researchers responsible for this text has been organized by themes. These themes were developed by the authors of this text in conjunction with the authors of Volume II, *Oral Traditions Overview*. Pertinent pieces of data gleaned from the interviews presented in Volume II have been added to the following ethnographic and historic text. Caution should be exercised when reading the excerpts from the interviews because the information presented is the opinion of the person speaking. This information has not been authenticated and thus should be used accordingly.

Quotes and information taken from the interviews are followed by the name of the interviewee, the tape number, the side of the tape used and the time (in minutes) along the tape from which the data was taken. For example, Scribner I,A,16-18 would indicate that the information was taken from an interview with Charles Scribner, on tape I, side A, from 16:00 to 18:00 minutes along the tape.

ETHNOGRAPHIC THEMES AND LIFEWAYS

The Native American groups represented in this study are the Nez Perce, Palus, Coeur d'Alene, Kalispel, Kutenai, Spokane, and Colville (Figure 2). The following discussions are concerned with the lifeways of these people. A series of themes has been used to organize and present the lifeway discussions. These themes include and generally follow in this order: origin, territory, and population; technology and material culture; settlement and housing; social organization; religion and ceremonial life; travel and external relations; and the historic period and acculturation.

The authors of the following discussions were familiar, in varying degrees, with the groups they were dealing with. The Nez Perce, Palus, and Coeur d'Alene text was prepared by Christian Miss. Wayne Choquette provided the information on the Kalispel and Kutenai, and David Chance was responsible for the Colville and Spokane discussions.

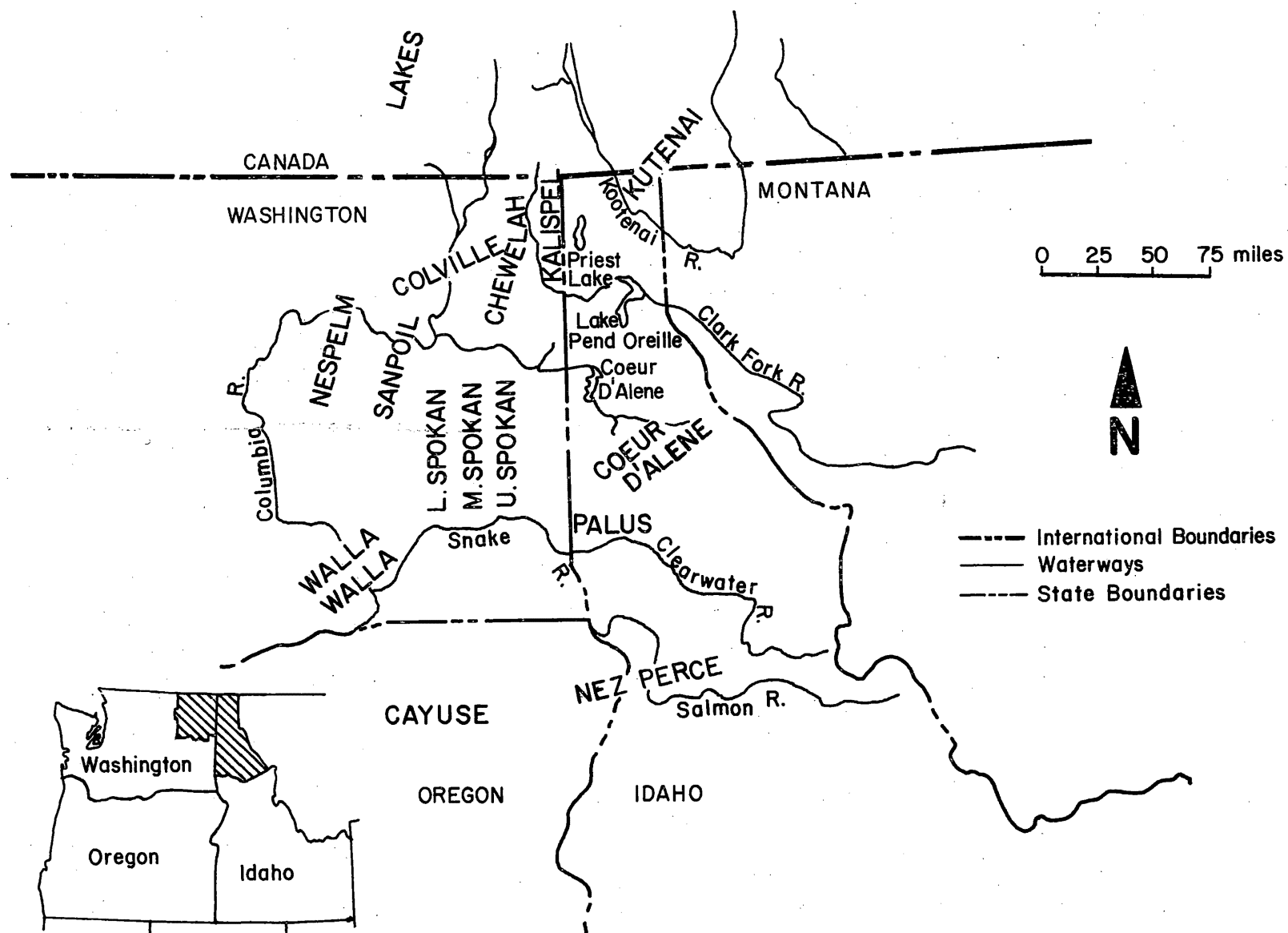


Figure 2. General Native distribution around 1850 (after Ray 1936).

THE NEZ PERCE, COEUR d'ALENE, AND PALUS

Historically, Native American groups were named by early explorers, travelers, and trappers according to language, lifestyle, geographic characteristic, and perceived collective personality traits such as the "awl-hearted" Coeur d'Alene. When the federal government became a major influence in the affairs of the Northwest, these usages remained characteristic of the various groups.

Needless to say, the Nez Perce, Coeur d'Alene, and Palus did not identify themselves with these titles, but they will be used here to refer to groups distinguished from each other and surrounding social entities by language and habitual use of a geographic area for subsistence (Ray 1939:12).

The ethnographic descriptions presented here are derived from anthropological literature with little attention paid to archaeological reconstruction of lifeways prior to Euroamerican contact. The time span covered is primarily from 1805 to the recent twentieth century. The societies that are described were ones which changed at a tremendous rate during this period. However, a case may still be made for the retention of a characteristic "core" culture which persisted through many of the acculturative pressures, and which may be vestigially found today among the remaining Coeur d'Alene, Nez Perce, and Palus.

A final note, the Palus will generally be discussed with the Nez Perce because of their cultural similarities unless there is definite information available.

Origin, Territory, and Population

Historically and ethnographically the Coeur d'Alene and Nez Perce have been readily distinguished by language and territory. The Palus are not defined as easily.

The Coeur d'Alene occupied an area estimated at 4,000,000 acres centered on the lake of the same name and drained by the Coeur d'Alene, St. Joe, and St. Maries Rivers. This land is characterized, for the most part, by mountains and heavy forests resulting from higher precipitation in comparison to much of the rest of the Columbia Plateau. Portions of the southern area around DeSmet, Idaho, and Tekoa, Washington, are open prairies.

Neighboring groups included the Spokane to the west, the Kalispel to the north, the Pend d'Oreille to the east, and the Nez Perce and Palus to the south. According to Lee (1967:51), aboriginal population is estimated at 3,000 to 4,000 before 1780 and 1,000 persons in 1805.

Language further distinguishes the Coeur d'Alene from the surrounding related Salishan groups and from the Sahaptin Nez Perce. Most of the interior Salishan languages including those of the Spokane, Kalispel, and Pend d'Oreille were to a large extent mutually intelligible. Coeur d'Alene language is linguistically separated from all of these groups (Swadesh 1952). The Salishan languages in turn are unintelligible and unrelated to the Sahaptin language spoken by the Nez Perce, Palus, Cayuse, and Yakima.

The Nez Perce occupied an even larger territory than the Coeur d'Alene. The lands included 27,000 square miles between the Bitterroot and Blue Mountains which were drained by the Clearwater River and the Snake River north of Payette, Idaho. In addition to its size, the Nez Perce's environment was more varied with deep canyons, the unforested Columbia Plateau, and the high mountains.

Nez Perce neighbors included the Wallawalla, Cayuse, and Palus on the east, the Coeur d'Alene, Spokane, and Flathead on the north and east, and the Shoshone, Bannock, and Northern Paiute of the Great Basin on the south. Aboriginal population is estimated at about 4,000 in 1780 and 6,000 in 1805 (Lee 1967:53).

The Palus are the most elusive of the three groups examined here. Ethnohistoric sources such as Lewis and Clark, Samuel Parker, and Father DeSmet mentioned the Palus separately although they considered them a band of the Nez Perce tribe. Others including Alexander Ross, David Thompson, I.I. Stevens, and the Palus neighbors, the Klickitats, Yakimas, and Sinkiuse, all distinguished the Palus as separate from the Nez Perce. Part of the confusion is due to strong kin ties established through intermarriage obscuring group boundaries. Another factor to be remembered is that Euroamericans were familiar with only the first 15-20 miles of the Palouse River until the 1850s, and so saw the Palus in terms of other groups on the Snake and Clearwater Rivers (Thompson 1971).

Spier (1936) maintained the Palus owned the whole basin of the Palouse River and the north bank of the Snake River to its junction with the Columbia River. Ray (1936) places them in the valley of the Palouse River from its mouth east to Colfax, Washington, and on the Snake to its junction with the Columbia.

Chalfant (1974a), citing Teit (1930) and Spinden (1908), noted the shifting of territories and tribal movements in the late eighteenth and early nineteenth centuries. He attempted to make a case that the Palus were related to or considered a part of the Yakima even though more closely tied economically with the Nez Perce.

Teit (1928:104) apparently elicited some information in his work about the expansion of the Palus into territory that had formerly been used by the Coeur d'Alene, Nez Perce, Spokane, and Columbia. The reason given for expansion is population destruction of the former inhabitants by disease.

A fairly realistic delineation of the territory of the Palus would place winter villages on the lower Palouse River and along the Snake from Alpowa to the Snake's confluence with the Columbia. The upper reaches of the Palouse River drainage were used seasonally by the Palus and the Coeur d'Alene and Nez Perce.

Neighboring groups were the Spokane, Sinkaietk, and Coeur d'Alene on the north, the Nez Perce on the east, the Umatilla and Cayuse on the south, and the Wallawalla, Yakima, and Kittitas on the west. The population in 1780 is estimated at 1,800 and in 1805 at 1,600 people (Lee 1967:31).

Technology and Material Culture/Land and Resource Use

Fishing, gathering, and hunting were the major subsistence activities of the Columbia Plateau groups. Anadromous fish runs occurred on the major rivers of the area providing half or more of the diet of the inhabitants. Other species of fish were sought as well so that some fishing was possible through most of the year. Gathering of roots, berries, nuts, and other vegetal products provided most of the rest of the diet, as well as furnishing textile and basketry materials. Hunting complemented the basic diet and also provided raw materials such as bone and hides. Additionally, the bison hunt on the Great Plains became an activity accepted to varying degrees by all of the eastern Plateau groups. Fish and roots were highly reliable, predictable resources, and it was the securing of these items that provided the basic seasonal round and social pattern.

Generally, spring marked the beginning of the seasonal cycle with the arrival of the first salmon runs and the appearance of the first edible roots and plants. The people of the winter villages dispersed to seek roots, fish, and game at a number of different sites. There was almost constant movement of groups throughout the spring and summer with convergences of larger gatherings on fishing and root grounds as availability of resources permitted. Late summer and autumn were the times for fishing, gathering, and hunting to secure winter stores. Winter was a sedentary season with reliance on the stored foods supplemented by some hunting and fishing.

The Coeur d'Alene wintered in permanent villages on the lakes and rivers of their territory. In spring the villages broke into smaller groups to trap trout, whitefish, and squawfish. Fish, both anadromous and nonanadromous, were hooked, gaffed, speared, trapped, and netted. Fishing stations for nonanadromous fish were found at the head of the Spokane River on Lake Coeur d'Alene, at the rapids 15 miles above St. Maries on the St. Joe River, and less frequently on the Little North Fork of the Coeur d'Alene River, and the Little North Fork of the Clearwater River (Chalfant 1974b).

In late spring and summer, roots, berries, and other plants were gathered. Digging sticks with elk antler handles were used to gather camas and kous at the large root grounds around Tensed, DeSmet, and Sanders, Idaho. Roots were also gathered near Colfax, Washington, with the Palus; near Moscow and Clarkia, Idaho, with the Nez Perce; and on Hangman Creek as far north as Spangle, Washington, with the Spokane. The camas was steam roasted in large pits and formed into cakes for storage (Chalfant 1974b).

Sap scrapers, made from ungulate scapulae or ribs, were used to gather the cambium layer of yellow and black pines and poplars (Teit 1930).

Berries ripened later in the summer and early fall. Numerous species were gathered, but huckleberries were especially favored. One informant (Stevens 1955:12) reported the trimming of huckleberry bushes to increase the yield. Favorite huckleberry sites of the Coeur d'Alene included the mountains between Sanders and Clarkia, Grizzly Mountain, the mouth of Pine Creek, the Little North Fork of the Coeur d'Alene River, and around the winter villages (Chalfant 1974b). Informants interviewed for Volume II of this report, *Oral Traditions Overview*, also remembered seeing parties of the Coeur d'Alene and other nearby tribes making berry picking expeditions to some of these locations. Sites specifically mentioned by these interviewees included Eagle Park (Snyder I,A,14-26), the North Fork of the Coeur d'Alene (Hunt I,A,25-30), and Grandmother Mountain (Sanderson I,B,10-12).

In early fall the Coeur d'Alene travelled to salmon fishing sites at Spokane and Kettle Falls and on the North Fork of the Clearwater River. No river within their major territory was accessible to the returning fish. Large amounts of fish were dried for storage.

In September, Coeur d'Alene groups left for the buffalo hunts of the Great Plains, frequently joining the Spokane, Kalispel, and Pend Oreille. For protection on the Plains from Blackfeet, Crow, and Sioux, they sometimes joined forces with the Flathead and Nez Perce as well. The Coeur d'Alene are reported to have hunted buffalo less frequently and in smaller numbers than the Nez Perce, Flathead, and Kalispel. Hunting parties ranged from 20 to 150 people (Teit 1930, Anastasio 1972).

In the late fall, people began converging on the winter villages and the large fall hunts were undertaken. Game sought in the fall was primarily deer and elk. Moose, goat, sheep, antelope, bear, beaver, marmot, ground squirrel, otter, muskrat, coyote, fox, and other animals were sought for their flesh, hides, and bones. Grouse, ducks, and geese were hunted for food while eagles, hawks, and woodpeckers were hunted for their feathers. Elk were described as once having been plentiful. Trips were made to Flathead and Nez Perce country for mountain sheep. An occasional caribou was taken in the north. Antelope were plentiful on the Spokane Plain until 1820 and at one time near Hangman Creek. In 1815 a bison was killed near Tekoa, Washington (Teit 1930).

Hunting areas favored were near the permanent winter villages, along the river valleys and around lakes. Summer hunting was conducted on the Little North Fork of the Coeur d'Alene and along the main stem of the Coeur d'Alene River as far as Prichard, Idaho. Beaver were taken on the way to Montana and on the south fork of the Coeur d'Alene River. Bear were hunted on Grizzly Mountain and in the upper Palouse River drainage, around Clarkia, and the Little North Fork of the Clearwater (Chalfant 1974b).

Hunting methods included the drive, especially in the fall, as well as calls, decoys, pole snares, and deadfalls. Drive methods included the use of fire and "scarecrows" and, in the winter, snowshoes and horses. Deer were sometimes driven into lakes or rivers and killed from canoes. Weapons were the sinew-backed bow of wood or mountain sheep horn and, later, the gun. The Coeur d'Alene was one of the last eastern Columbia Plateau groups to obtain firearms. They were not well supplied until 1830, and many still had only bow and arrow as late as 1860 (Teit 1930).

Other tools essential to subsistence and daily life included flaked stone points and knives, stone adzes, conchoid pestles, river cobble hammerstones and pestles, hafted mauls, antler flaking tools, soapstone pipes, stone scrapers and flat anvil stones. In addition, antler wedges, chisels and hafts, wooden knives, beaver tooth knives, some bone points, scrapers and fleshers made from deer ulnae or the ribs of elk or horse and hide-covered wooden mortars were used. Horn spoons, wooden spoons and pestles, needles from bear bone or hardwood, deer and bear bone awls, mats, bags, baskets and nets woven of rushes, willow bark, cedar bark, cedar roots, and birch bark, rawhide bags and parfleches, and hide and skin clothing were also important.

Winter activity was limited to fishing on local lakes and streams, and hunting around the winter villages. Winter was a sedentary season occupied with ceremonialism and the repair and manufacture of articles and tools for use and trade.

The Nez Perce subsistence cycle was similar to that of the Coeur d'Alene, varying in locations, scheduling, and emphasis according to the availability of resources. The more diverse environment previously noted for the Nez Perce resulted in a somewhat more extensive seasonal migration for food than was undertaken by the Coeur d'Alene. Root crops tended to ripen following an altitudinal gradient, and groups pulled away from the river valleys, but the wide availability of migratory fish drew them back to fishing sites located near the winter villages in the valleys.

In early spring, as stored winter supplies were exhausted, communal hunting drives were conducted in the valleys and groups headed downriver to meet the first fish runs. Root crops, especially those found on the dry, rocky slopes of the steep hillsides above winter villages, were sought as spring progressed. By late spring and through the summer, small groups moved away from the river bottoms to higher altitudes seeking root and plant foods. Allen Slickpoo, tribal leader of the Nez Perce, corroborated this pattern by indicating that his people usually began root digging in April and then moved as time went on to higher ground. Slickpoo remembered that families or bands with family ties usually travelled together on these migrations (Slickpoo, Volume II, Informal Interview, Appendix A), and this view was supported by Delbert Cox, who remembered seeing these family migrating groups in the early twentieth century (Cox I,A,9:30-12:30).

Favored areas for roots included Camas Prairie, Weippe, and Moscow, Idaho, and the Grande Ronde valley of eastern Oregon (Spinden 1908). Naomi Parker, an oral history informant, also alluded to the area around Clarkia as an important camas digging area (Parker I,B, 18:30-22). Hunting and fishing in small streams were done by the men, while the women harvested camas and prepared it for storage. As with the Coeur d'Alene, camas was baked in earth ovens and made into cakes. Other roots collected were the bitterroot, wild carrot, and wild onion although kous and camas made up 90% of the vegetal diet (Marshall 1977:63).

Berries were also harvested during the summer and early fall with the serviceberry most important. Blackberries, chokecherries, strawberries, salmon berries, currants, gooseberries, and roseberries could be found. A favorite area for huckleberries was near Clarkia, Idaho, on White Rock Mountain (Chalfant 1974a). Additional locations mentioned by oral history interviewees in this project included Gold Center and Windy Peak (Sanderson II,B,18:30-20). According to informants, these berries were often combined with other foods in their diet. Allen Slickpoo, for example, mentioned that berries, dried meat and fat were often ground together, and that salmon flesh was also mixed with berries (Slickpoo Volume II, Informal Interview, Appendix A).

Other vegetal foods included sunflower and chenopodia seeds. Lichen, cambium tree layers, ponderosa pine nuts, and tree moss were all described as famine foods (Spinden 1908).

In the fall, the salmon runs were harvested from stations near the winter villages or at major fishing sites known throughout the Columbia Plateau such as Celilo Falls and Kettle Falls. Fishing techniques were similar to those employed by the Coeur d'Alenes. Kinds of fish taken from the rivers included blueback and Chinook salmon, steelhead, suckers, sturgeon, and eels. The fish were split, sun-dried or smoked and stored. When eaten right away they were either boiled, baked, or broiled.

Late summer and early fall was also the time for the buffalo hunt. Buffalo hunting was important to the Nez Perce and conducted regularly. Interestingly, meat was rarely brought back with the returning hunt parties, rather horns and hides were the valuables sought (Anastasio 1972:132,163). Some Nez Perce groups made brief trips across the Bitterroot Mountains, while others allied themselves with the Flathead, Kalispel, and other groups to make major expeditions for war, hunting, and self-protection that sometimes lasted several years. The Nez Perce, Flathead, and Kalispel were the leaders of gatherings of Palus, Walla Walla, Yakima, Cayuse, Wasco, Coeur d'Alene, Columbia, and Spokane which numbered as many as 2,000 people. The Nez Perce are thought to have had as many as a fifth of their population resident on the Great Plains at one time.

Fall hunts were also conducted primarily for deer and elk with techniques and weapons similar to those of the Coeur d'Alene. Game was sometimes speared from horseback. Eagles were occasionally caught and raised for their feathers. Rattlesnake poison was sometimes used on arrow tips (Walker 1978:73).

Meat was jerked for storage, but only bison was made into pemmican (Spinden 1908:207). Allen Slickpoo was able to describe the process that his grandmother used for the drying of this meat. He remembered that his grandmother was very adept at cutting it into very thin strips which were then placed on crossbars of willow or alder wood for the drying process (Slickpoo Volume II, Informal Interview, Appendix A).

As with the Coeur d'Alene, food was stored in bark- and grass-lined pits on well-drained slopes. By November most travel had ended and people had resettled in their winter villages. For the Nez Perce, the winter was also a ceremonial time and very sedentary.

Tools and articles important to the subsistence round were items similar to those listed for the Coeur d'Alene. In addition, the Nez Perce also used or produced stone knives which were hafted using a glue of chokecherry gum, pitch, and sturgeon blood. In addition, they made some digging stick handles of stone. Unmodified stones were used as netsinkers and hammerstones, while bone and horn were used to make hide grainers, fish spearheads, gouges, whistles, dice and gaming pieces. Woven products included wallets, cylindrical packbaskets, watertight cooking baskets, cups, food bowls, winnowing baskets, hopper baskets, women's hats and carrying baskets made from Indian hemp and bear grass (Spinden 1908).

The single account of a seasonal round for the Palus follows the pattern of the Coeur d'Alene and Nez Perce with variations in location. Briefly, people left the winter villages for roots in the spring travelling to Soap Lake, Badger Mountain, and lower Crab Creek. Groups returned to the Snake River for summer slamon runs followed by fall hunting and gathering trips to the Blue Mountains, Clearwater River country, and the Mt. Adams area. Seasonal camps for roots, berries and game are noted for Union Flat Creek, the upper Palouse River drainage, Pine Creek near Rock Lake and near Steptoe Butte (Scheurmann and Trafzer 1980).

A final practice recorded for both the Coeur d'Alene (Barrett 1979) and the Nez Perce (Marshall 1977) is the use of fire. The specific instances described for the Coeur d'Alene include a description of a fire-surround hunt near Lake Coeur d'Alene in 1858 and the firing of the forest in the 1850s on the North Fork of the St. Joe River near Lookout Pass to destroy parasitic moss. Other reasons for using fire were provided by Flathead, Pend d'Oreille, Kutenai, and Euroamerican informants in western Montana (Barrett 1979). They indicated that fire was used to control the underbrush, fire, disease, and insects, increase browse for game, increase berry production, facilitate gathering, improve horse pasturage, clear campsites and trails, and for ritual and entertainment.

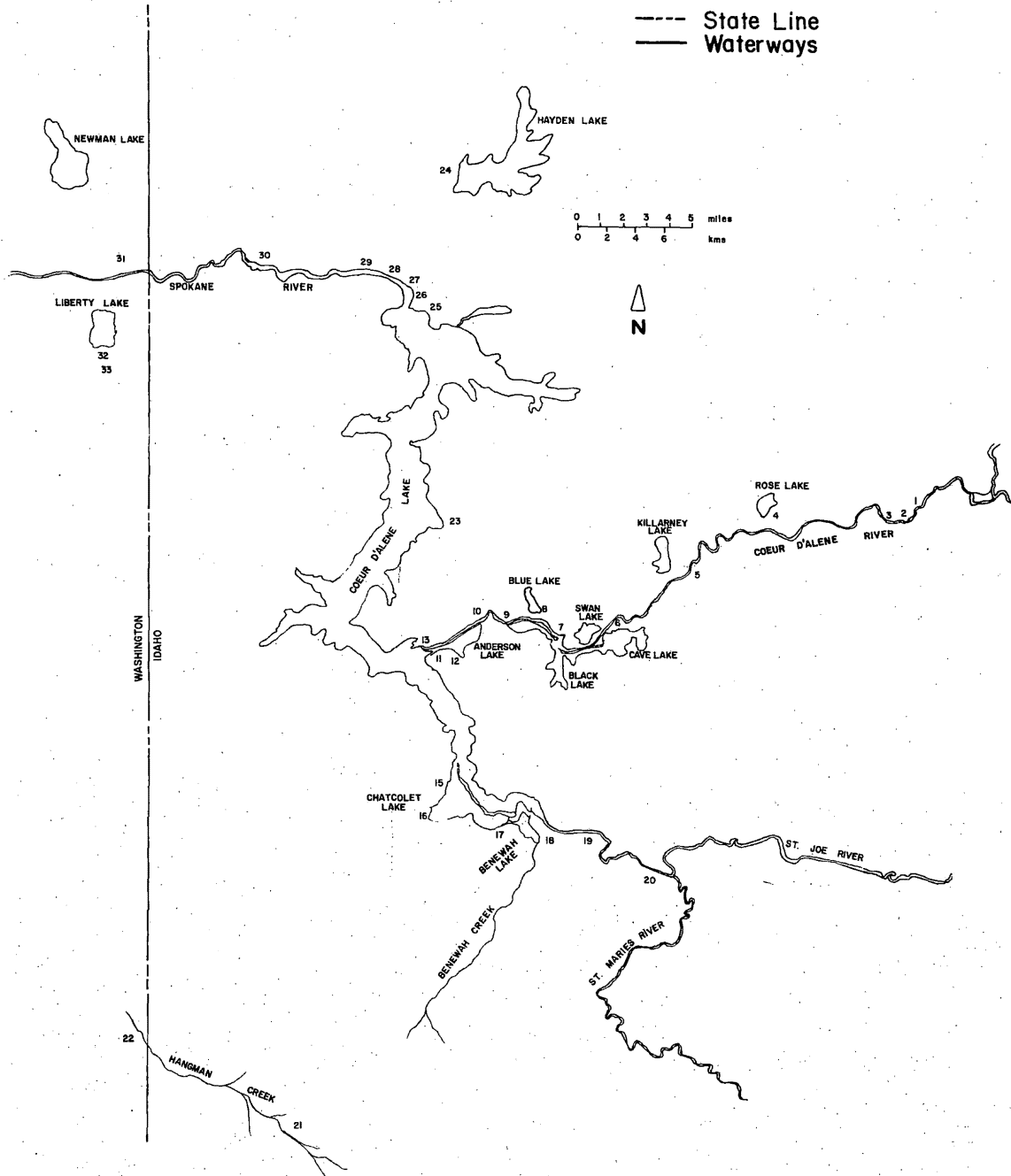
Settlement Patterns/Housing

Location and times of occupation of villages and camps were highly dependent on the cyclical availability of resources. Basically, a pattern of dispersal and convergence occurred. The larger, sedentary winter village group broke into smaller family task groups to seek the first foods of the year. Convergence occurred at the major camas grounds such as Moscow, DeSmet, and Clarkia, Idaho. People of various Native American groups gathered not only to dig roots, but to gamble, trade and race horses. Dispersal was again required for late summer and fall berry picking and some hunting. Finally, the small groups remerged to spend the winter.

This pattern is reflected in the types of structures and the amount of time and energy put into their building. Three types of settlement with characteristic structures can be distinguished: the permanent winter village; the semipermanent, habitually-used camp; and the more ephemeral, short-term camp made where and when necessary.

The Coeur d'Alene occupied winter villages on the banks of the major lakes and rivers within their territory (Figure 3). These waterways provided easy communication and travel routes. Villages were also spaced for maximum availability of other resources such as convenient hunting, wood, and water. Semipermanent camps occurred at the major root grounds. There is the suggestion that there may have been some traditional, patterned system of use with certain families returning each year to certain camps. A few families were reported to have spent the entire year at the root grounds (Stevens 1855a).

Figure 3. Locations of Coeur d'Alene villages and campsites (after Ray 1936 and Stevens 1955)



The conical mat lodge, housing one to three families, was the structure most favored by the Coeur d'Alene. In the winter, the structure was built over a shallow excavation, the layers of mats increased, and the dirt from the excavation piled against the lower outside walls to provide a warm dwelling. In summer, the mat lodge was set up without the excavation. Mats were replaced by buffalo hides as they became available and the hides in turn were later replaced by canvas (Teit 1930).

Long communal lodges were erected for temporary shelter at large gatherings. In good weather, they consisted of single-sided lean-tos with fires along the open front. In bad weather, double lean-tos were constructed with doorways at each end. Single-sided lean-tos sometimes formed an arc 30-50 m in length while double-sided structures could be 18-35 m long and hold 75 to 100 people. A large permanent double lean-to measuring 5-8 m by 13-25 m was built communally at each village for meetings, winter dances, and visitors. It was maintained and lived in by the young, unmarried men of the village (Teit 1930:58-59).

The oblong cedar bark lodge was the second most popular village dwelling. It held one to four families, was built in all seasons, and had a summer lean-to form as well (Teit 1930:61).

Women's lodges or menstrual huts were small tents or conical lodges made from mats, bark, brush, or old skins. Sweathouses were made with a bent willow frame and hide covering. At one time, they were earth covered. Temporary shelters were constructed where needed out of the materials available. Other structures included scaffolds for storage and for drying meat and berries and small platforms in the trees for storage of equipment.

A final construction of the Coeur d'Alene is mentioned by both Teit (1930:117-8) and Stevens (1855a:19). They report the building of stockades and extensive defenses near Coeur d'Alene villages. They do not make clear who the attackers were nor give an idea of the time span involved in their construction:

A circular stockade was used which had pits and trenches dug throughout the interior as well as lean-to mattings for overhead protection. Entrances were zigzagged to protect the interior from missiles. All types of fortresses had loopholes to allow arrows to be launched. Another type of defensive construction was on the order of a loghouse. Logs were laid on top of each other and covered with a flat log and earthen roof. Very low or secret, tunneled entrances allowed access to these heavy fortresses. These fortresses were not used at the time of early white contact (Stevens 1855a:19).

These stockades were found at each large village.

The location of Nez Perce village sites is highly predictable (Schwede 1966, 1970). They were located on the basis of resource availability. Every village had fishing access with improvements such as fishing platforms, traps, and weirs so that the occupants were essentially a fishing task group. These villages were generally placed at the confluences of side streams with major rivers. The streams provided driftwood for fuel and a source of early spring spawning nonanadromous fish. Access to early spring roots and pasture for horses was also important. These factors resulted in a concentration of villages between Lewiston and Kamiah on the south and middle forks of the Clearwater River (Marshall 1977) (Figure 4).

Village structures included long communal houses, conical lodges, semisubterranean women's lodges and sudatory lodges for the young men, and smaller willow frame sweathouses for men and women on stream banks (Spinden 1908:196-199). Ideally, a village also had a dance floor for winter ceremonies located outside of the residential area, which was covered with a temporary mat lodge when necessary (Marshall 1977:136).

The longhouses were similar to the Coeur d'Alene double lean-to with a center ridge of double poles constructed over an excavation and the frame covered with mats. The conical lodge was also the same as the Coeur d'Alene's.

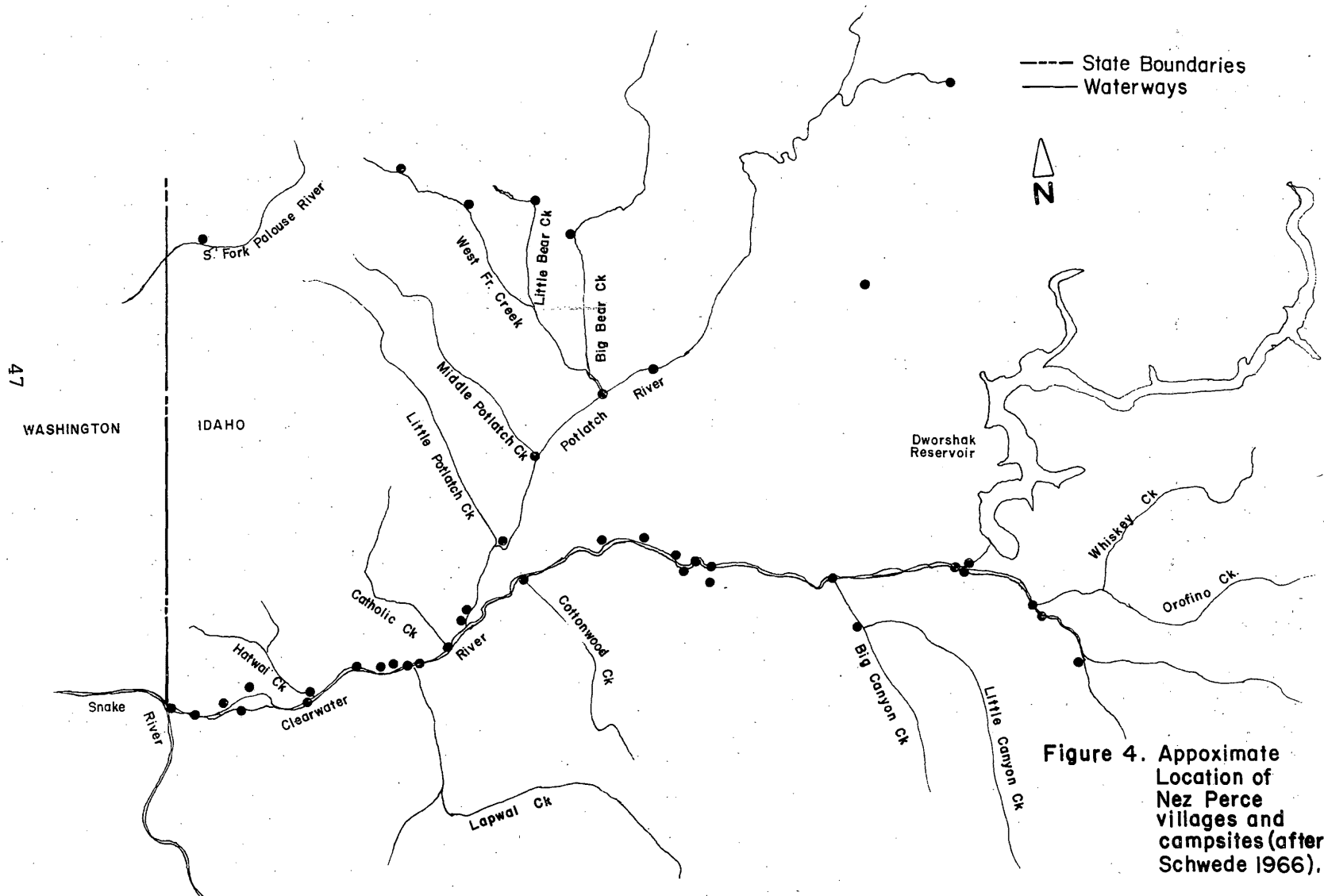


Figure 4. Approximate Location of Nez Perce villages and campsites (after Schwede 1966).

The Nez Perce construction of semisubterranean structures is distinct from the Coeur d'Alene settlements. The women's menstrual lodge averaged 10 m in diameter and 1.8 m in depth. It was roofed with poles at ground level, covered with earth, and entered via a ladder at the side of the roof. The sudatory lodge was occupied by the young, unmarried men. It had an excavation 3-3.7 m in diameter, 1 m deep, and grass lined, with an earth-covered pole roof level with the ground.

The willow-framed sweat lodge was the same as the Coeur d'Alene. Structures of a more temporary nature were used as travelling camps and at the camas grounds. Frames for storage and meat, fish, and berry drying were also built.

The basic division of labor among the Coeur d'Alene and the Nez Perce was between women and men. Each had separate responsibilities and abilities that were complementary and so formed the basic economic unit. Each person was the sole owner of the products of her/his labor and could dispose of them as they wished. Descent was traced through both males and females and an individual usually married a person from outside his or her village grouping. Married couples tended to locate their residence with the husbands family and men were known to take more than one wife. The replacement in marriage of a deceased husband by his brother or a deceased wife by her sister was also practiced.

Villages were composed primarily of related, extended families. Among the Coeur d'Alene, village size ranged from 10 to 300 individuals (Dozier 1961:8). According to Anastasio (1972) drawing on Teit (1930):

the Coeur d'Alene formed a tribal group of three units which he calls divisions; these in turn consisted of bands. Some bands occupied a single winter village and others occupied several villages. Each band had its territory, and its chief was supervisor of the performance of subsistence activities. The divisions were definite geographical as well as social and political units. Coeur d'Alene territory was fairly well set off and most settlements were isolated spatially from those of other groups. Each unit--band division, and tribe--had its own council chief and pipe and could make certain decisions autonomously. The chief of the tribe was generally, if not always, the chief of the northern division located around Coeur d'Alene Lake. War and hunting leaders were elected for each expedition, although there were also permanent war leaders (Anastasio 1972:194-5).

The three divisions were made up of villages on a) the Spokane River and Lake Coeur d'Alene with the main village near the present city of Coeur d'Alene; b) the Coeur d'Alene River with the major village at Cataldo; and c) the St. Joe River with the main village at the mouth of that river. Leadership in general was elective but semihereditary, tending to remain within certain families, villages, and bands.

Nez Perce social organization was similar to that of the Coeur d'Alene, but distinguished by lacking a tribal level of political organization and involving more people spread over a larger territory. The greatest organizing factor was the location of villages in a linear settlement pattern along the streams and rivers. Villages were identified with the small lateral streams feeding into larger tributaries. Villages associated with a larger tributary were unified as a band and identified with the tributary. Bands, in turn, were loosely associated in composites. The largest Nez Perce composite band was centered on Kamiah. Three other composite bands were centered on Lapwai, the confluence of the Grande Ronde and Snake Rivers, and at Alpowa between Lewiston and Clarkston (Walker 1972: 128).

As with the Coeur d'Alene, each village had a headman and council, and each band had a leader who was generally the leader of the most prominent village. The composite bands formed a council made up of band leaders and prominent warriors who could elect temporary leaders as the need arose. There was no tribal system or single leader. Leaders at all levels were elected, although positions tended to be semihereditary.

Religious and Ceremonial Life/Aesthetics

All of the groups discussed here followed the general pattern of an animistic, shaman-centered religion with an emphasis on the individual quest for supernatural power. The tutelary spirits sought in the vision quest gave power to the individual by supernaturally supporting his/her abilities. Power was evident in outstanding character traits and skills (Walker 1978:159).

Shamans were distinguished by having many tutelary spirits. These spirits gave aid in curing (the most important function of the Shaman), prophecy, game location, weather control, finding lost objects, and dealing with individual and personal problems (Walker 1978).

Tutelary spirits were sought through fasting and prayer. The young person was sent to special places, usually mountaintops, but sometimes to certain spring locations, for this purpose. Ceremonies included the seasonal winter tutelary spirit dances, the first roots and salmon ceremonies, and rituals for birth, naming, marriage, sickness, and burial.

The Coeur d'Alene sought their power on the mountaintops like the Thompson Indians of British Columbia:

On the night of the first day they had to repair to a mountaintop and light a fire, and dance and sing there all night...and purified themselves by means of the sweat bath and by washing in cold water... some youths set up a stone, danced and sang around it, and finally fired an arrow at it. If the stone moved or cried out, it was a sign that their efforts to become great hunters had been crowned with success (Teit 1900:318).

Hutchison (1980) discussed stone slabs and piles on the divide between the Coeur d'Alene and St. Joe Rivers which the Coeur d'Alene Tribal Council regards as related to the vision quest. Other stone piles were described by Teit (1930:181) at trail summits and mountain passes. Travelers added a stone to the pile to propitiate the "land mysteries." There were also "water mysteries." Such powers were associated with specific sites, usually mountain peaks, waterfalls, and sometimes trees. Offerings were made at the sites to keep the powers from appearing.

Charles Scribner, who was interviewed for Volume II, the *Oral Traditions Overview*, related a story he had heard from an old man who claimed to have been involved in just such a vision quest in the St. Joe Baldy area:

"He showed me his rock...when the lads got about 14 or 15 they took everything away from them except a knife...they had to come up here on the mountain and live off the country and have a dream...and erect a monument of some kind. And then they'd go back and tell the medicine man what their dream was, and he interpreted that and gave them a name... and then when the tubes came up in the fall, hunting and huckleberrying, the elders would go out and examine these monuments or whatever it was, and if they passed their inspection, these kids were warriors. This rock that this old fellow had is gone now. It was about 16 inches square and about eight feet long..." (Scribner I,A,29-30; see Volume II for entire quote).

The Coeur d'Alene also believed in tree men, dwarfs, and giants, and conducted numerous dances including the praying dance at winter solstice, the sun dance, the thanksgiving dance at the end of the harvest and before the fall hunt, the marrying dance, war dance, scalp dance and gift dance. Shamen led dances to change the weather and improve the hunt (Teit 1930).

The Nez Perce spirit quest of /wayakin/ led the seeker to ridges in the mountains where places were

already prepared for the fasters...they consist of piles of stones about two feet high, arcs of circles, one with the opening to the east, another open to the west, a third to the south (Curtis 1911:63).

The seeker sat in the center of this arrangement and fasted and prayed. A second account describes the rock structures as being built by the young person, with a U-shape, long enough and wide enough to recline in, with the opening facing eastward (Slickpoo 1979). Children were advised by adults which peaks they should visit. The peaks were usually the highest ones around a traditional campground. Two such peaks were Pilot Knob east of Grangeville, Idaho, and another peak near the Freezeout campground on the St. Joe National Forest (Slickpoo 1979).

The Nez Perce also held ceremonies for a child's first roots or game as well as naming ceremonies, a children's feast in late winter, scalp dances, and war dances.

The Coeur d'Alene buried their dead in rock slides or in the earth in a flexed position with the body tied with cords and wrapped in a robe. Sometimes the face or parts of the body were painted red. The body was put in a circular grave about three feet in depth with a few grave goods and some food. One to three poles peeled and painted red were erected over the grave. Grave goods including property of the deceased and funeral gifts such as blankets were hung from the poles. Sometimes one or more horses were killed and the skins hung at the grave. If the hides were needed, only the hooves were hung from the poles. Small quantities of food were placed on the graves. Canoes were sometimes placed there also. Strings of deer hoofs were hung in the deceased's lodge to scare away the ghost. The lodge was also fumigated with dense smoke and in some cases burned. If human bones were found, they were placed in a tree or reburied (Teit 1930:178-4).

Nez Perce burials were located on the first bench above the river, if near a winter village, and in rock slides. They were marked by a rock cairn. A grave containing the corpses of a horse and a person with a partly burned upright cedar stakes above them is described by Spinden (1908:182). Property included copper beads, knives, guns, iron rods, and shells. Cedar stakes were placed either vertically or horizontally over the body. Teit (1930:175-6) describes the Nez Perce burial practices as being very similar to those of the Coeur d'Alene with some variations such as nearly always painting the face of corpses and including more grave goods. More detailed information can be found in Fielder (1979), Sprague (1967a) and Sprague and Birkby (1970) for the Nez Perce and Palus.

The Coeur d'Alene reportedly drew pictographs on rock faces and robes, and tattooed similar symbols and designs on their bodies. The designs were supposed to have recorded the dreams, guardian spirits, battles, and exploits of the drawer and were intended to transmit supernatural power. Petroglyphs were supposedly not made. Chatcolet is reported as the site of one set of pictographs (Teit 1930:194).

Images of guardian spirits were also sometimes carved. Usually they were small and kept in the medicine bag, but some were larger and displayed in the lodge. Charms and fetishes included stone, claws, teeth, roots, and plants.

Paints and dyes were derived from minerals, berry stains, flowers, algae, and lichens. A special red paint was sought from a source near Helena, Montana. Geometric designs were woven into bags, baskets, and wallets and painted onto rawhide bags and parfleches. Post-contact beadwork was done with both geometric and floral patterns. Occasionally small figures of men, women, deer, elk, and bison were scratched on bark baskets.

Games and pastimes included dice and guessing games with beaver tooth dice and cards of bark or deer hide, hand games, hoop and ring games, and arrow games with assorted targets and all associated with gambling. Ball games similar to lacrosse and rugby, games played with a hoop, and bowling on ice were all played. Sports included coasting and sliding in winter, tug-o-wars, wrestling, swimming, foot and canoe races, tag, catch, cat's cradle, kicking contests, dancing, and singing. Various toys were also made for children, usually small versions of tools and utensils.

The Nez Perce had very similar crafts and decorative arts. Pictographs and petroglyphs occurred on cliffs and boulders and similar designs were drawn. Geometric designs appeared on parfleches and wallets and on textile, basketry, quill, and bead work. Realistic figures were rarely portrayed. Games, sports, dances, and other pastimes were also similar to those of the Coeur d'Alene.

Travel and External Relations

The Columbia Plateau Culture Area has frequently been examined in terms of group interrelationships on an area-wide scale. The unifying strand of the Columbia River system brought varied ecological systems into what may be viewed as a single economic and political system (Hewes 1947, in Anastasio 1972). The mechanisms of intergroup relationships integrating the various Native American groups included co-use of resource sites, peaceful congregation of large groups, formalized trading and gift relationships, an emphasis placed on personal freedom and egalitarianism, and strong links provided by kinship.

Interaction and gathering of large groups took place annually where resources allowed. Major trade fairs and gatherings occurred in places such as the Yakima Valley, the Dalles, and the confluence of the Snake and Columbia Rivers. Hundreds, sometimes thousands, of people gathered to dig roots or fish and to trade, gamble, and race horses. The social and recreational importance of these gatherings was particularly emphasized by Native American informants interviewed for this project (Slickpoo, Culloyah, Ignace, Volume II, Informal Interviews, Appendix A).

Locally, interaction between Coeur d'Alene, Nez Perce, and Palus has been noted primarily in the mutual utilization of resource areas; the huckleberry areas near Clarkia and the hunting by all of the groups north of the North Fork of the Clearwater River and south of the DeSmet area. The root grounds near DeSmet and around Moscow provided the resources for hundreds of people to gather including Spokane, Kalispel, Palus, Sanpoil, Nez Perce, Cayuse, Yakima, and Coeur d'Alene. Spokane, Kalispel, and Nez Perce sometimes hunted in Coeur d'Alene territory as well (Anastasio 1972:157).

The Coeur d'Alene, while often described as sedentary and somewhat insular, are known to have appeared in various areas of the Columbia Plateau. The trips to Spokane and Kettle Falls for fall fishing were annual. These two places were the sites of gatherings of a thousand people or more including Colville, Spokane, Kalispel, Sanpoil, Nespelem, Methow, Chelan, Okanogan, Nez Perce, and Palus during the fish runs (Anastasio 1972:152,155). To a lesser extent and probably less regularly, the Coeur d'Alene hunted in Kalispel territory, attended intertribal gatherings at the confluence of the Snake and Columbia, and sought roots in Nez Perce territory at Camas Prairie and Weippe.

The Coeur d'Alene obtained most of the items they wanted from the Spokane who had a reputation throughout the Columbia Plateau as traders and intermediaries of exchange. The Coeur d'Alene traded for soapberries, hazelnuts, bitterroot, dried salmon, dentalia, abalone and some other shells, flat, circular beads, copper and iron, and slaves with the Spokane. Buffalo robes and sheep horns came from the Pend d'Oreilles and Flathead before widespread adoption of the horse. After the adoption of the horse, the Coeur d'Alene traded fish and root products, hemp, twine, some berries, shells, beads, pipes, bows and arrows, horses, hides, and clothes on the Plains for headdresses, buffalo robes, catlinite, and catlinite pipes. Trade with the fur companies was for flint, steel, guns, ammunition, traps, iron, copper, knives, hatchets, beads, cloth, and tobacco (Teit 1930).

The Nez Perce were often found at the gatherings and in the areas previously mentioned for the Coeur d'Alene. In addition, they were found at major annual gatherings in the Yakima Valley, at the confluence of the Snake and Columbia Rivers, and in the Grande Ronde Valley with Kittitas, Klikitat, Umatilla, Palus, Yakimas, Cayuse, Walla Walla and sometimes Spokane, and groups from the Great Basin.

The Nez Perce were the most frequent outsiders to visit the gatherings at the Dalles-Celilo Falls. Their own territory was famous for the quality of its camas with the major root grounds attracting Cayuse, Palus, Umatilla, Walla Walla, Yakima and sometimes Spokane, Coeur d'Alene, and Flathead (Anastasio 1972).

The Nez Perce traded dentalia, haliotis, olivella shells, salmon pemmican, salmon oil, woven bags, horn and wood bows, greenstone pipes, lodge poles, wild hemp, berries, moose skins, mountain sheep horn spoons and bowls, and basketry to the Great Plains groups. In return they imported buffalo robes, feather headdresses, catlinite pipes, obsidian, bison horn, bison bone beads, paints, buckskin clothing, and horse equipment to the Columbia Plateau (Walker 1967).

Transportation and travel were once centered on the waterways and the use of the canoe. For the Coeur d'Alene this probably remained, to some extent, even after the horse arrived. Other aides to travel and transport were snowshoes and tumplines. The horse made long trips easier and allowed the transport of larger loads. In general, trails paralleled water courses and were open to anyone. The groups through which the trail passed acted as hosts to travelers. The horse also expanded the trail systems into a more complex network (Shawley 1977).

Only a few of the major trails of the Coeur d'Alene such as routes to Montana along the South Fork of the Coeur d'Alene River and the St. Joe River are known at present. Trails of the Nez Perce have been described and mapped by Shawley (1977) from interviews with Native American and Euroamerican informants. Shawley estimates that he has recorded only about 10 percent of the former transportation system within the 1855 reservation boundary. The Nez Perce Southern Trail, Lolo Trail, Wallowa Crossings, and Nez Perce War Routes are also well known.

Trails mentioned by informants for the *Oral Traditions Overview* are discussed in detail in the "Routes of Travel" section of that volume. Narrators believed that the Coeur d'Alene did use a trail which was called the "Montana Trail" by some, the "High Ridge Trail" by others (Scribner, Boyce, Wells, Volume II, Informal Interviews, Appendix A). Charles Scribner described the route he believed this trail followed, indicating that it connected the Hangman Creek drainage with Montana, and followed a route which generally ran along the ridge between the St. Joe River and Clearwater River drainages (Scribner I,A,19-28).

Routes which were probably used more frequently by the Nez Perce included trails from Kooskia and Elk River heading into higher country, another coming from Tensed to Clarkia, and another along the Snake and Clearwater Rivers to Othello and Fort Walla Walla (Cox I,A,12:30-16; Sanderson I,B,2:30-6; II,A,18:30-22; Slickpoo Volume II, Informal Interview, Appendix D).

Warfare was a mechanism of intergroup relations generally unused on the Columbia Plateau. Even raiding was limited, probably because horses, the major prey of Great Plains raiders, were easily acquired through the Columbia Plateau trading system. Additionally, there were ecological limits to horse pastoralism that influenced the location and number of horses maintained. Conflict in general was minimized by distance between residential groups, the network of kinship, cooperative relations and the cross utilization of resources, and by the lack of cohesiveness among groups (Walker 1967; Anastasio 1972).

While these generalizations may hold true, there was still a good deal of animosity among Columbia Plateau groups. Interestingly, the lines of conflict tended to follow the general linguistic division between Salishan and Sahaptin speakers. Hostile relationships existed between the eastern Sahaptins (e.g., Nez Perce) and the western Salish (e.g., Sanpoil and Nespelem); and the eastern Salish (e.g., Kalispel, Spokane, Coeur d'Alene) and the western Sahaptins (e.g., Yakima, Umatilla). This warfare was limited to sporadic raiding with no generalized, long-term campaign tactics (Anastasio 1972).

The Coeur d'Alene had a warlike reputation claiming to have defeated, on occasion, most surrounding groups. They had fought in the "old times" with the Spokane, Kalispel, Pend d'Oreille, Flathead, Nez Perce, Kutenai, and among themselves. The last war with the Spokane took place in the late eighteenth century. More wars were fought with the Nez Perce than with any Salishan group. These two groups entered each other's territory to raid (Teit 1930:125). Curtis (1911:49) describes the Coeur d'Alene as constant enemies of the Nez Perce as well as the Spokane and Shoshone.

Acquisition of the horse and the arrival of the fur traders ended much of the intergroup hostility on the Columbia Plateau. Mobility and firearms allowed Columbia Plateau groups to hunt and fight on the Great Plains. Additionally, the traders were more likely to stay if hostilities ceased (Anastasio 1972).

The Nez Perce were hostile toward the Sanpoil, Nespelem, Colville, Sinkaietk, Methow, and Chelan. They are also known to have raided the Spokane, Coeur d'Alene, Kalispel, Yakima, and Umatilla. They are known to have attacked the Wayam at Celilo Falls and to have raided other lower Columbia River groups including the Wishram and Wasco.

They were also deeply involved in the conflicts outside of the Columbia Plateau. The Nez Perce were allied with eastern Salishan groups including the Coeur d'Alene and other Sahaptin groups to oppose the Crow, Blackfeet, and Sioux on the Great Plains, acting as military leaders as well as expedition leaders. Raiding parties made up of Palus, Cayuse, Wallawalla, and Umatilla and led by Nez Perce travelled to the Blue Mountains and the headwaters of the Snake, Salmon, and Lemhi Rivers to fight the Shoshone, Bannock, and northern Paiute (Anastasio 1972).

Intermarriage was an excellent mechanism for establishing resource and economic ties between families, villages, and larger groups. Generally, adjacent groups had strong kin ties, but there were variations that reflect the intragroup animosities of the Columbia Plateau just described. Marriages tended to be geographically and linguistically restricted. Thus, the Coeur d'Alene intermarried primarily with the Spokane and, occasionally, with the Pend d'Oreille and Nez Perce. After the bison hunts became common, they intermarried with the Flathead and Kalispel as well. A few marriages occurred with the Colville, Sanpoil, and Palus. They never happened with the Columbia, Wallawalla, and Cayuse, Shoshone, Kutenai, or any other groups (Teit 1930:40).

The Nez Perce tended to marry other Sahaptin speakers, especially favoring matches with the Cayuse, Yakima, Wishram, Umatilla, and Warm Springs. Alliances with the Okanogan, Sinkaietk, Coeur d'Alene, Flathead, and Spokane also occurred (Walker 1971).

Intermarriage is one of the major reasons for the lack of data on the Palus:

...the Nez Perce, Cayuse and Palouse were so intermarried at the time of first contact that it was virtually impossible to distinguish them (Walker 1971:24).

Yet, a separate identity for the Palus occurs throughout literature (Stevens 1855, Anastasio 1972, Scheurmann and Trafzer 1980), and residents of the Yakima, Nez Perce, Umatilla, Colville, and Warm Springs reservations claim descent today.

Historic Period/Acculturation

The year 1805 is generally used as a time marker to delineate the beginning of Euroamerican contact for Columbia Plateau groups. Euroamerican influence had already radically affected the Columbia Plateau people before the arrival of Lewis and Clark. Disease, the horse, and technological change had all made their mark.

Epidemics in the late 1700s must have affected social structure and subsistence habits. Population changes are credited by some (Chalfant 1974a) to be the reason for movements of groups in the late eighteenth century. Social restructuring must have taken place within and among social groups of all sizes from the family to the band level when populations were reduced as much as 80 percent among the Coeur d'Alene, or even eliminated completely.

Religious nativistic movements and expectations of Christianity also resulted from early disease and secondhand contact. Walker (1968: 32) considers the "prophet dance" a reaction to indirect Euroamerican contact. The Coeur d'Alene "deified" a spotted calico shirt in hope of finding protection from smallpox and sought Catholic missionaries or "black robes" on the basis of a dream or vision for similar reasons (Stevens 1855a:44).

As has already been shown, the horse increased the mobility of Columbia Plateau groups and facilitated existing patterns of trade and contact. It also increased the importance of the Great Plains bison hunt and created military adventurism to the east and south. Responses to the horse were variable. The Nez Perce and Palus adopted it enthusiastically, while the Coeur d'Alene responded somewhat more slowly, never raising as many as the other groups. The horse enabled the Nez Perce to become the trader and warrior leaders of the Columbia Plateau. For the Coeur d'Alene, life changed less drastically; the bison hunt became an option, not a way of life.

Christian missions were the next disruptive influence to find its way to the Columbia Plateau. Several Native American delegations were sent east as far as St. Louis to ask for missionaries. Although several Protestant groups quickly responded, the Jesuits did not establish themselves among the Coeur d'Alene until 1842 when they founded a mission at Mission Point on the south end of Lake Coeur d'Alene. By this time, Presbyterian missionaries were well entrenched among the Nez Perce on the Clearwater River.

The attempts to change the belief systems of these groups resulted in and involved more than just the replacement of one body of belief and ritual with another. The Catholic priests immediately called in the medicine bags and tried to stop the tutelary spirit dances, gambling, horseracing, and polygamous marriage and tried to change the subsistence pattern of the Coeur d'Alene from fishing, gathering, and hunting to farming. The Presbyterians brought the Nez Perce medicines, farming, mills, printing, and literacy along with religious beliefs. In return, they demanded an end to polygamy, gambling, shamanism, guardian spirits, ceremonial activity such as drumming, singing, and dancing, long hair, traditional dress, horses, old subsistence patterns, traditional leaders and the practice of Catholicism (Walker 1968; Stevens 1855a).

The churches were responsible for changes in settlement pattern as people gathered around the missions. Fishing, hunting, and gathering were replaced by farming, economic dependence on the missions, and later, the government. Lack of the polygamous family decreased kin ties. Traditional family, village, and band functions and relationships were replaced by the church community. Leadership came to depend on church membership and position.

The Catholic mission among the Coeur d'Alene was moved twice before ending up at DeSmet, Idaho. In 1846 the original site was abandoned because of flooding and the mission moved to the Cataldo site. Here, the well known Mission of the Sacred Heart was completed in 1853. The final move to DeSmet was begun in the 1870s in response to Euroamerican mining pressure and subsequent land reduction by treaties. The mission, a school run by the Sisters of Charity, farms, and a sawmill were all well established by the 1880s. It should be noted that each of the mission sites was at or near prominent villages of the traditional three divisions. Significantly, the final site is at the traditional root gathering and ceremonial grounds.

The Catholic Church has remained very prominent in Coeur d'Alene affairs. Negotiations with the government were always conducted at the missions with the resident priest as counselor. In the twentieth century a priest was sent to Washington D.C. as the representative of the Coeur d'Alene Tribe in its claims case before the U.S. Indian Claims Commission. A position was also written into the tribal constitution for a nonvoting, church member advisor (Stevens 1955a:55-57).

A major split developed among the Nez Perce between Christian and Traditionalist factions. This split was to be an important factor in the establishment of the Nez Perce reservation and the Nez Perce War that followed. The Nez Perce mission experience did not involve major moves as the Coeur d'Alene's did, but it was complicated by the establish-

ment of Catholic and Methodist as well as Presbyterian missions. The social organization of the Nez Perce on the Clearwater from Kamiah to Lewiston became focused on the rival missions. Political and religious attitudes tended to coincide with residence. Prior to development of the tribal council, the Presbyterian faction with its church elder system provided leaders. They were recognized as the tribal government by the federal government until the 1920s. More factions developed in the 1940s with the arrival of religious Christian fundamentalists (Walker 1968).

The federal government has been the final organized agent of impact on the Coeur d'Alene, Nez Perce, and Palus. Prior to 1871, U.S. government negotiated with Native American groups as sovereign nations. Increasing Euroamerican migration resulted in drastic reductions in land guaranteed by the original treaties negotiated in the 1850s for the Indian inhabitants. The tribes were restricted to reservations and the official government goal was assimilation. In 1877, the Dawes Act was passed which allotted parcels of land to each person and opened the rest of reservation lands to Euroamerican homesteaders. It was not until the Collier administration of the Bureau of Indian Affairs in the 1930s that encouragement of tribal responsibility for affairs and recognition of ethnic separateness occurred. Attempts to terminate reservations continued to crop up in the 1950s and 1960s.

The Euroamerican population influx began in the 1840s with the Oregon Trail and settlement of the Willamette Valley. Provisions encouraging homesteading in the Pacific Northwest preceded the negotiation with Indian groups for their lands and the establishment of reservations. The Euroamerican migration was intensified by successive gold rushes in the last half of the nineteenth century.

In 1855, I.I. Stevens, the first Washington territorial governor, began the treaty process to concentrate the Indian peoples of the Columbia Plateau on designated reservations. The results were eventually successful, although many groups became involved in military conflicts as they became more alarmed by the increasing number of Euroamerican settlers.

The Coeur d'Alene joined the Spokane, Palus, and Yakima in attacking the Steptoe military party in 1858. The subsequent Wright campaign against these groups effectively stopped opposition and forced recognition of territorial claims (see Manring 1912).

In 1863, government supported Nez Perce leaders at Lapwai signed the "thief" treaty giving up territory associated with the bands centered on the Grande Ronde Valley. Forced acceptance of the 1863 boundaries resulted in the 1877 Nez Perce War (which many Palus joined) and the subsequent deportation of part of the Nez Perce and Palus populations to the Oklahoma Indian Territory. These people were not returned to the Northwest until 1885 when they were distributed on reservations throughout the Columbia Plateau. By this time, the Palus had effectively been eliminated as a independent group retaining any autonomy. The Colville Reservation was the main site for placement of these Nez Perce, and at least one oral interviewee remembered having contact with them, including the most famous of their leaders, Chief Joseph (Scribner I,A,16-18).

The Coeur d'Alene suffered various land cessions in the last third of the nineteenth century. Allotment took place in 1906. By 1926, most Coeur d'Alene were "absentee landlords" in contrast to the large farms previously held by families. The Coeur d'Alene now hold about 70,000 acres of the original 600,000-acre reservation. In 1970, 360 lived on the reservation. Most of the land is arranged in a checker-board pattern of allotments and the remainder is held by the tribe. Many of the allotments are divided among many heirs and only about 8 percent is farmed by Indian owners or the tribe (U.S. Bureau of Indian Affairs 1976). These statistics were confirmed by Delbert Cox, an oral interviewee, who indicated that in the Orofino area, only a very small number of Native Americans farmed on these lands. According to Cox, a large percentage leased their allotments to adjacent ranchers or were paid a portion of the crops or a fee for the grazing rights (Cox I,A,8:30-9:30).

The Nez Perce owned 241,000,000 acres before 1885. A large portion was taken for national forests, parks, and other public uses. Allotment took place in 1896. Today, total Nez Perce acreage is about 91,000 acres, 60 percent of which is in allotments. The rolls show 2,311 tribal members, half of whom live on the reservation (Feathers 1970:3).

The Indian Reorganization Act of 1934 resulted in the development of tribal councils and constitutions for both the Coeur d'Alene and Nez Perce in the late 1940s. Tribal councils began taking over some of the functions performed by the Bureau of Indian Affairs. It was not until the early 1960s that tribal councils were considered autonomous and able to make business agreements with government agencies and others. Today, both groups have programs for land consolidation, retention, and planning. Tribal resources are being protected as well as utilized, and tribal enterprises are providing an economic basis for continued existence of these separate ethnic groups.

THE KALISPEL

Origin, Territory and Population

The Kalispel speak one of a series of closely related Salish languages that extended from the Columbia River to the Great Plains. Geographic and linguistic relationships of the eastern Salish languages suggested to Elmendorf (1965) that pre-Kalispel split for pre-Okanagan-Kalispel and moved eastward, encountering and bypassing the Coeur d'Alene and spreading up the Clark Fork River. Archaeological data from near the mouth of the Priest River suggest that pre-Kalispel may have occupied the Pend Oreille valley prior to 1,500 B.P. (Hudson, et al. 1980). Subsequent divergence within pre-Kalispel resulted in the linguistic differentiation represented by the Spokane, Chewelah, Kalispel, Pend d'Oreille, and Flathead groups. It has been suggested that the Kalispel may have been an offshoot of the Pend d'Oreille who moved westward and settled on the Pend Oreille River perhaps as late as 250 B.P. (see Teit 1930:321-322; Carriker 1973:3-4).

At the time of historic contact, Kalispel territory comprised all of the Pend Oreille and Priest River drainages including a northward extension along the Salmon River in what is now British Columbia (Teit 1930:308). Their territory also extended up the Clark Fork perhaps as far east as the vicinity of present-day Plains, Montana.

Estimates of Kalispel population are unreliable because of the unquantified reduction due to epidemics and other protohistoric events. DeSmet estimated their population to have been about 600 in 1845 (Chittenden and Richardson 1904:996). Anastasio (1972:Table 1) lists Kalispel population at 2,500 in 1805, 2,000 in 1855, 1,200 in 1845 and 700 in 1853. The total population derived from Ray's listing of villages (Ray 1936:128-129) exceeds 2,000, but such a high figure is probably distorted by seasonal migrations within the village pattern (see Teit 1930:314; Chalfant 1974c:210).

Technology and Material Culture

Numerous implements were manufactured of stone including projectile points, knives, scrapers, drills, pipes, pestles, hammers, and mauls. According to Teit (1930:326), work in wood and bone was but weakly developed and there was little ornamentation by carving. This statement appears to be substantiated for bone at least by the scant archaeological record of the present time for Kalispel territory (see Shiner 1950, 1954a and b; Knudson et al. 1979; Bussey 1981; Hudson et al. 1980).

A wide variety of items were made from animal and plant materials. Skins were used for clothing, and after the introduction of the horse, lodge coverings. Long buckskin shirts and breechcloths were worn by the men, long buckskin dresses by the women, and buckskin leggings, belts, and moccasins of deer and elk hide were worn by both. Robes of woven rabbit skins and deer skin ponchos were also in use. Headbands and fur caps were worn by both sexes.

Hides were prepared in ways typical of a number of Salish groups (Teit 1930:327). A skin was soaked in water or in a mixture of animal brains and salmon oil for several days and then fleshed. If desired, the hair and the outer cuticle were scraped off. After another soaking, the hide was wrung out, and if from a large animal, it was stretched on a frame of four poles with lacing. The hide was then rubbed until it was dry and soft. Most skins were smoked, many only on the inside, over a fire of rotten cottonwood and/or Ponderosa pine cones.

Square and oblong rawhide bags were employed for storing fat and meat, and for holding water. Rawhide was also used to make medicine cases. Thread was of sinew from along the backs of deer, elk, or bison. Needles were seldom employed, their use instead being supplanted by bone awls. Strips of hide were sometimes made into ropes. Spoons and ladles were made of skull caps and of mountain sheep and bison horn.

Woven mats of willow bark and rushes as well as sewn tule mats were used for lodge and floor coverings. Cedar bark and Indian hemp twine were woven into wallets and caps. Nets were also made from Indian hemp twine. Circular watertight coiled baskets were made from split cedar roots. Other containers as well as some dishes, trays, spoons, and ladles were of birch and cedar bark. The prevalence of cedar bark basketry, even into the recent past, was noted by several individuals interviewed for the *Oral Traditions Overview*. Alice Ignace, a member of the Kalispel Tribe, vividly recalled cedar bark baskets being made by her grandmother for use on huckleberry picking expeditions. According to Mrs. Ignace, these baskets were at least two to three feet in length and could hold several gallons of berries (Ignace, Volume II, Informal Interview, Appendix A).

Scaffolds of poles were erected at all permanent camps for storage, and willows were used to make fish traps. Francis Culloyah, the current Kalispel tribal chairman, mentioned using these willow fish traps in the 1930s on fishing expeditions with his family to Priest Lake. These traps were described as being made of willow branches tied into a conical shape with willow bark or twine. According to Culloyah, these traps were made on the spot when needed (Culloyah Volume II, Informal Interview, Appendix A). Canoes had frames of cedar and coverings usually of white pine bark. They were of the "sturgeon nosed" type with the ends cut off square and sewed.

Painting and dyeing were practiced to a great extent. Quills cedar bark strips, and sometimes hides were dyed, while clothes and bags were commonly painted. Clothes were also typically decorated with quillwork, fringes, punctures, pinking, elk teeth, shells, ermine skins, human and horse hair, and beads, the latter especially after contact with Euroamericans. Decorative motifs were for the most part geometric, although flower designs were becoming more common at the time of Teit's visit. George Davaz, whose parents traded with the Kalispel for their beadwork in the very early part of this century, described some of these goods:

"They'd trade anything beaded...They even had beaded moccasins...(Beading designs included) a star, and all different colored beads in every petal...especially bright color" (Davaz II,A,18:15-20:15).

Erle Hupp also recalled that:

"They were great for color and beads - oh boy... they bought the beads, but they liked, if you would buy a bunch of beads you could always trade them those loose beads for something they may have - a pair of moccasins or gloves (Davaz II,A,18:15-20:15).

The Kalispel wore large freshwater mussel shell earrings, although perhaps not as extensively as their close relatives, the Pend d'Oreille. Body painting and tattooing were also practiced. Considerable dynamism is apparent in the realm of decoration. Teit (1930:327) observed that fringes on bags were shorter prior to the acquisition of the horse. He also indicates that the decorative basketry technique of imbrication was not extensively practiced. Teit hypothesized that imbrication reached the Kalispel around 1800, as their basketry industry was declining and thus was not adopted (Teit 1930:329).

Land and Resource Use

Kalispel territory contained an abundant variety of natural foodstuffs. Fish and game animals were obtained throughout the year, but a certain degree of scheduling was necessary in order to efficiently exploit many of the most nutritious food resources, particularly plant foods because their abundance or availability was only seasonal. Of these, camas was probably the most significant. It was found in vast abundance in extensive prairies along the west side of the Pend Oreille River in the vicinity of Cusick and no doubt accounts for the clustering of major village sites in that vicinity (Chalfant 1974c:220).

Bitterroot was an economically important root crop, the mountains northwest of Usk, Washington, being a favored location. These same mountains also yielded wild juniper, which was mentioned by several oral history informants. Although chokecherries and serviceberries were gathered principally along the Pend Oreille River, the most common berries were huckleberries which grew in many of the mountain areas adjacent to the Pend Oreille valley. Chalfant (1974c:221) indicates that the region of the Baldy Mountains in Washington and near Hope, Idaho, were particularly prominent huckleberry areas. Oral history informants particularly corroborated the Baldy Mountains site. Interviewee Erle Hupp related, for example, a story that a Kalispel friend, John Abrahamson, had told him about huckleberry picking on South Baldy,

"I asked him about some huckleberries, where there was a good patch. He said he told me on the back side of South Baldy. But he said, 'You want to be careful, those berries are so big up there, if somebody lets one of those loose and it comes rolling down there, it might run into you and break your leg'" (Davaz/Hupp II,A,20:15-23:45).

Additional huckleberry sites favored by Kalispel people in the region included: North and South Huckleberry, Monumental, Molybdenite, Tacoma Creek, Calispel Creek (Davaz/Hupp II,A,7:30-9:30) and Twin Creek in the Clark Fork area (Ruen III,A,0-4). Other economically important vegetal foods included wild rhubarb, wild onion, black tree moss, and cambium.

Hunting and fishing were the major economic pursuits during the winter months when the population was the most sedentary and subsisted otherwise on stored food supplies. It is likely that the locations of winter ungulate range and good fishing spots, as well as the more obvious determinants of availability of fuel and proximity to food stores. Deer were reportedly very common in the Pend Oreille valley during historic times, where they were taken in winter by hunters on snowshoes. Communal deer drives were also held in the wintertime, the mountainous country between Usk and Metaline Falls and the Priest Lake vicinity being specifically mentioned by Chalfant (1974c:222). These same hunting locations, for example, were mentioned by recent Kalispel informants who particularly emphasized hunting in the northern Priest Lake country. Trout and whitefish were caught by fishing through the ice.

In March, fishing commenced on Lake Pend Oreille, and bitterroot was dug in April. The summer months saw extensive fishing and gathering activity. Some Kalispel journeyed to the west and north to obtain salmon at Kettle Falls and at the head of the Salmon River (Teit 1930:349).

Most Kalispel, however, remained at the major local fishing locations, the most important of which were at the mouth of the Clark Fork River and on the Pend Oreille River near Cusick. In the early part of this century, Kalispel informants also remembered yearly trips to Priest Lake for whitefish (Culloyah Volume II, Informal Interview, Appendix A).

Large weirs as well as traps were employed at these places. Funnel-shaped fish traps were used in conjunction with rock dams in mountain streams. Hook and line and spears were employed locally by individual fishermen, both from the riverbanks and from canoes (Chalfant 1974c:224).

Other fishing stations mentioned by Chalfant were on the Pend Oreille River at the mouth of Tacoma Creek; at the mouth of Calispell River; at Albeni Falls, a short distance above the mouth of the Priest River; and at Laclede, plus Sacheen, Davis, Browns, and Half Moon Lakes. In addition, oral interviewees remembered an important fishing site along the Pend Oreille near Furport (Davaz II, A, 9:30-12), and near Roundtop Mountain, west of Usk, on Cottonwood Creek (Libra I, A, 18-22; 24-28).

Gathering camas near Cusick brought a large number of people together in the summer at that locality, probably the most intensive population focus of the Kalispel. Later summer saw a shift towards procurement of berries from near the major rivers as well as further back in the mountains.

September was spent preparing, cooking, and storing camas and other food products for winter use (Chalfant 1974c:219). Berries and roots were cured by drying; the latter were also cooked in pits heated with hot rocks. These processed vegetal foods were then mashed and kneaded into cakes for winter storage in pits or above ground on pole platforms.

Priest Lake was an important fall fishing locality (Chalfant 1974c: 225) where much of the winter supply was caught and smoked or dried. Informant Francis Culloyah particularly remembered netting bluebacks on these fall trips, which were also used as an occasion for hunting in the mountains north and east of the Lake (Culloyah Volume II, Informal Interview, Appendix A). Hunting, which had been a continual, but secondary, subsistence pursuit during spring and summer, became the primary focus of Kalispel men during October. Communal hunts as well as ambush and stalking were employed. Deer were the principal prey, although other animals such as elk, bears, moose, caribou, and rabbits were taken if the opportunity arose. Waterfowl were hunted on the major watercourses. Meat was dried and stored on tree platforms near the future winter villages. Winter camp locations were selected in November and lodges were constructed. By December, the population was settled in.

After the adoption of the horse, bison hunting became an important economic pursuit of the Upper Kalispel, and many of them, women as well as men, joined the Pend d'Oreille and Flathead on the annual trek to the Great Plains. This development caused the decline in emphasis on some local economic activities, including fishing and basket making. But it is plain that the large-scale alteration of the subsistence round which was occasioned by the shift to a bison-hunting economy among some other groups, including the Upper Kalispel, was not as drastic among the Lower Kalispel.

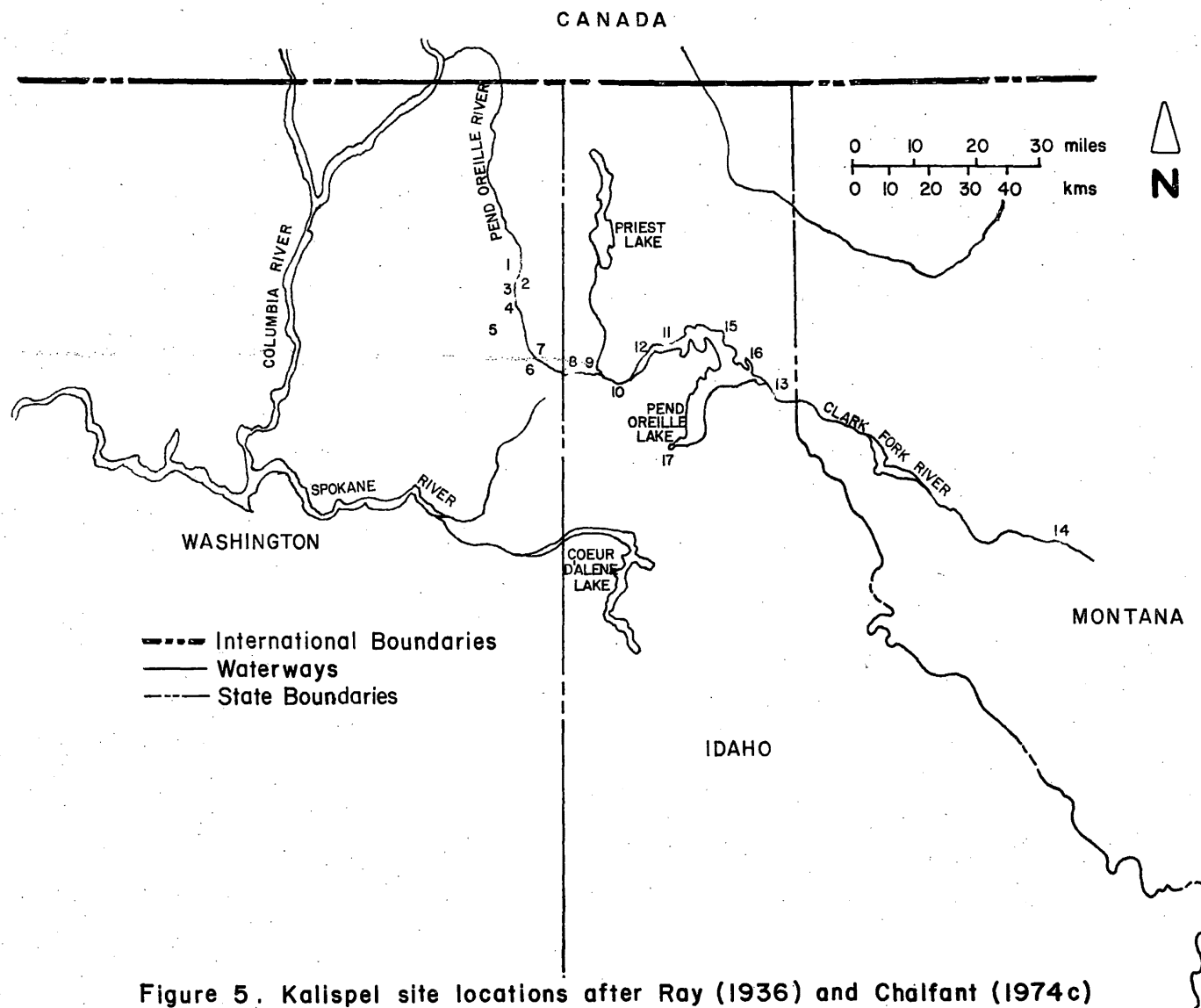
Settlement Pattern

The Kalispel were comprised of two divisions, each consisting of several bands. The Lower Kalispel were centered around the large camas prairie in the vicinity of Calispell Lake where the largest of several winter camps was located. Other winter camps were located on the Pend Oreille River, mostly on the east side, all within about nine miles of the major center (Teit 1930:313). The dividing line between the Lower and Upper Kalispel was probably in the vicinity of Albeni Falls (Smith 1980:personal communication). The Upper Kalispel lived along the Pend Oreille River and around Pend Oreille Lake in Idaho. Winter camps were also maintained around Priest Lake, Idaho, and in the Plains and Thompson Falls vicinities in Montana.

Chalfant (1974c:216-217) combined Ray's (1936) village location data with information he gathered during a brief stint of fieldwork in 1952 to delineate four "nuclear areas of habitation", representing minimal areas of aboriginal occupation defined in terms of village locations. Two of these nuclear areas are in Montana. The boundary between the two within the present study area corresponds roughly to the division between the territories of the Lower and Upper Kalispel described above (Figure 5).

The westernmost nuclear area contains the following sites on the Pend Oreille River (from Ray 1936:128-129):

- 1) A winter village opposite the present town of Locke was one of the largest of the Kalispel, numbering 400-500 persons (Ray's no. 1).
- 2) A winter village opposite the mouth of Tacoma Creek three miles north of present-day Cusick, population 300-400 (Ray's no. 2).



3) A summer fishing village at the mouth of Tacoma Creek, population 100 or more (Ray's no. 3).

4) A permanent village, the largest of the Kalispel, at the mouth of the Calispel River near Cusick. Summer population estimated at about 1000 (Ray's no. 4).

5) A permanent village at the outlet of Calispell Lake having 6 to 12 resident families (Ray's no. 5).

6) A permanent village at the site of the present town of Furport, population 50 (Ray's no. 7).

7) A village at the place now called Indian Creek about nine miles below Newport (Ray's no. 6).

Chalfant's second nuclear area within the present study area includes the following sites documented by Ray:

1) A fall fishing station and winter hunting base at Albeni Falls, population 50 (Ray's no. 8).

2) A winter village on the Pend Oreille River just above the mouth of Priest River. Winter population was 100 or more, while a few families also resided there in summer (Ray's no. 9).

3) A year-round village on both sides of the Pend Oreille River at present day Laclede, population about 50 (Ray's no. 10).

4) A village near the present town of Sandpoint (Ray's no. 11).

5) A permanent village at the mouth of the Clark Fork River, population 300 to 400 (Ray's no. 13).

In addition, Chalfant's informants stated that winter camps were also maintained around Priest Lake, at present day Hope and Bayview, and at the mouth of Trestle Creek on Pend Oreille Lake (Chalfant 1974c:214).

Satellite to these "nuclear areas" were the seasonal camps occupied by task groupings in pursuit of the various subsistence resources described previously. Prior to the acquisition of the horse, there apparently was a rather pronounced westward shift of the Kalispel population in summer because of the abundant roots and fish in the Cusick vicinity. In contrast to this pattern was the dispersed distribution of the winter population in the four nuclear areas stretching eastward into Montana.

Housing

Teit (1930:331) indicates that a few semisubterranean earth lodges may have been used by the Kalispel "long ago", but the primary dwellings consisted of conical pole-framed structures with a three-pole foundation that were sometimes placed over a shallow excavation. After the adoption of the horse, many of these were hide covered, but prior to this the coverings consisted of horizontally-arranged, overlapping sewn tule mats. One or two layers were used in summer, three to four in winter. These lodges were of variable size, generally housing two families each. Some large ones may have contained three families, or a single large family might have their own ledge. Large mat-covered A-frame long lodges were present at all large winter camps. These were family dwellings, and communal dancing and meeting houses which were used for public gatherings. They sometimes also served as visitors' domiciles.

Long ago, bark lodges were erected at spring and summer camps where good bark was abundant. Tamarack, white pine, and cedar were the main species exploited for this use. These structures were not large and were of double lean-to or oblong form. They usually consisted of three to four overlapping strips of bark as long as the height of the lodge, overlapped horizontally, and placed with the outside of the bark facing outward. Brush shelters were employed by hunters in the mountains. Most were of double lean-to or conical shape, though some consisted merely of half-tent windbreaks sheltering one side of the fire.

Sweat houses were the typical dome-shaped structures with bent willow frames. They were covered with bark or grass, over which was laid sod or earth. Temporary sweat lodges were covered with layers of robes, skins, or pliable mats.

Social Organization

In historic times, the Lower Kalispel apparently recognized Victor as the leader of several bands, while Michael was the foremost chief of the Upper Kalispel (Chalfant 1974c:193-202). However, Ray (1939:17) states that the Kalispel show only a tendency toward tribal organization. The great dispersal of winter camps, which covered the whole geographic range of site locations, suggested to Chalfant (1974c:213) the old Columbia Plateau social structures were autonomous villages composed of families, who, by tradition and familial ties, wintered together. Ray's culture element distribution study (1942:228) supports this conclusion.

Each band had a chief and an assistant chief plus three "small chiefs", who gave advice and looked after the affairs of the band (Teit 1930:374,376). The powers of the chiefs were in large measure advisory only, their primary authority probably being in the regulation of hunting and fishing and the distribution of the catch (Carriker 1973:24). Chieftainship was never strictly hereditary, and when a chief died, he was usually replaced by a subchief. Subchiefs could be elected on the bases of exemplary skills and behavior.

The Upper and Lower Kalispel bands heavily intermarried in the past, and social and familial ties were strong (Chalfant 1974c:215). Marriage was normally according to the wishes of the bride's and groom's relatives, and hence was a frequent mechanism for cementing friendships between families. According to DeSmet (Chittenden and Richardson 1904:459), the chief had final approval of proposed marriages. According to Teit (1930:382), men often had two wives, and some, more.

A definite sexual division of labor characterized Kalispel economic life. The women made all the baskets, mats, bags, dressed all skins, did all embroidery, made nearly all the clothes, painted all the bags, parfleches, etc., made and erected the lodges, gathered most of the fuel, did most of the cooking, dug all roots, collected and cured all the berries. They also helped the men with the horses and in other ways (Teit 1930:330). The men made all the weapons and most of the tools, painted robes, shields, weapons and anything connected with their guardian spirits, made some articles of clothing such as feather bonnets, hunted, fought, and cared for the horses.

Religious and Ceremonial Life

A supreme deity, Amo'tkEn, was responsible for the beneficial aspects of Kalispel life (Teit 1930:383). The Kalispel prayed to Amo'tkEn, but not to Amte'p, a negative deity who was considered to be wicked and to harm people.

As among the surrounding tribes, beliefs in races of dwarves and giants were held by the Kalispel. They also believed that different kinds of spirits haunted certain lakes and parts of the mountains. Offerings were made to them to obtain good weather, good hunting, and immunity from harm of any kind when people were within their sphere of influence (Teit 1930:383-384).

Shamanism and guardian spirits were also components of Kalispel religion. At puberty, everyone sought a guardian spirit and went through a long period of training which included bathing in running water, fasting, praying and keeping vigil in lonely places (Teit 1930:384). These vigils or vision quests were mentioned by several interviewees who had heard oral traditions about this practice or had visited mountaintop sites particularly associated with these quests. Cee Cee Ah Peak and North Baldy were two such sites, according to Kalispel Chairman, Francis Culloyah, and Allen Smith added Calispel, Tacoma, and Winchester Peaks as other likely locations. A rock in the middle of Davis Lake and another called Kalispel Rock were also mentioned as spirit quest sites (Culloyah; Smith Volume II, Informal Interviews, Appendix A).

The successful supplicants on these quests received one or more medicine songs and kept objects representative of their guardian spirits in specially-made medicine cases. Shamans were those who practiced healing and divination, their abilities in these realms determined by the power of their guardian spirits.

There were two principal periods when all of the Kalispel congregated for feasting and dancing, one in midsummer and the other in midwinter. The sun was considered to be important spiritually, but the sun dance itself was not practiced. Prayers were offered to Amo'tkEn during First Fruits ceremonies at the times of the first gathering of important root and berry crops. There were also a number of social dances held at various times of the year.

Kalispel burial practices were typical of Salish customs elsewhere (Teit 1939:382). The corpse was sewed or tied up in mats and interred in a sandy knoll or at the base of a talus slope. Occasionally a cairn of stones was erected over the grave. Most often, according to Kalispel informants, these burials were along the Pend Oreille River (Culloyah Volume II, Informal Interview, Appendix A).

Travel and External Relations

Prior to receiving horses, the Kalispel travelled on foot, using snowshoes in winter, or by canoe. Dogs were not used as pack animals (Smith 1980: personal communication). The horse, of course, markedly increased the mobility of the Kalispel, particularly the Upper Kalispel who moved eastward into present-day Montana during the historic period.

The Pend d'Oreille Trail was a major east-west trade route passing through the territory of the Kalispel along the north of the Clark Fork and Pend Oreille Rivers. This route was called the Kalispel Trail by a number of individuals interviewed for the *Oral Traditions Overview*. They emphasized several routes of the trail between the Pend Oreille Valley and Colville as well as another route heading south to Spokane, called the Calispel Trail (with a "c"). A more detailed discussion of these thoroughfares is included in the Routes of Travel Section of the *Oral Traditions Overview*. Marine shells, stone, and pipes, eagle tail feathers, mountain sheep horn and horn spoons, ladles and bowls, dressed moose skin, bows, coiled basketry, salmon oil and salmon pemmican were Columbia Plateau commodities traded eastward along this route. Catlinite and pipes of that material and a variety of bison products were the principal Great Plains items which moved westward (Teit 1930:358). There was apparently not much north-south trade through Kalispel territory.

A network of other trails was also in use in addition to the major east-west thoroughfare along the Pend Oreille valley (Chalfant 1974c:227). Trails ran from the major center in the Cusick vicinity overland to Priest Lake and to Kettle Falls. Several trails ran north from Hope, Idaho, into the mountains to favorite huckleberry patches. An important trail ran up the Priest River valley from the mouth of Priest Lake, and many local trails laced the mountains on either side of the Pend Oreille River. The existence of all of these trails into the mid-twentieth century was confirmed by oral history informants, although information on locations was unprecise.

The Kalispel had a definite sense of territorial ownership insofar as lands considered necessary and important to their subsistence economy were involved (Chalfant 1974c:229). Friendly tribes could make use of Kalispel lands only with the permission of a chief and unfriendly or enemy tribes were denied access to Kalispel lands (Ray 1939:17). However, passage through Kalispel lands by friendly tribes along the Pend Oreille Trail, a common occurrence in post-horse, bison-hunting days, was uninhibited (Chalfant 1974c:229, see also Anastasio 1972:167). In fact, some of these bison hunting parties joined up with the Kalispel before proceeding to Flathead territory.

Kalispel economy included several relationships of mutual cross-utilization of resources with neighboring tribes (Anastasio 1972). The Kalispel bought salmon from the Colville or travelled to Kettle Falls to fish in Colville territory. Bitterroot was obtained by the Kalispel from Spokane territory (Chalfant 1974c:229-230). Both of these groups received reciprocal permission to dig camas in Kalispel territory. According to Turney-High (1941:34), the Lower Kutenai also went to the

Lower Kalispel root grounds to obtain camas. Stevens (1855b Vol. I:367; XII:134) states that the Spokane, Nez Perce, and Coeur d'Alene sometimes hunted in Kalispel territory and the Kalispel occasionally hunted in Coeur d'Alene territory when their own territory was poor in game.

During the period 1805-1855, Anastasio (1972:Figure 11) indicates that there were many intermarriages between the Kalispel and the Kuteani and Flathead; some intermarriages between the Kalispel and the Spokane, Lakes, and Colville; and few between the Kalispel and the Coeur d'Alene and Sanpoil. In addition to warfare with the Blackfoot, which was a continual and inevitable part of bison hunting trips to the Great Plains, hostile relations are reported between the Kalispel and the Coeur d'Alene (Anastasio 1972:144), Kutenai (Causton and Otter 1954; Chalfant 1974c:228-229), Yakima, and Umatilla (Anastasio 1972:145).

The Historic Period/Acculturation

According to Teit (1930:351), the Kalispel received horses from the Pend d'Oreille, who in turn got them from the Flathead. Haines (1938:435) estimates that the Flathead obtained horses from the Shoshone during 1710-1720. With horses, the Kalispel were able to travel eastward up the Clark Fork to hunt bison east of the Continental Divide. The Upper Kalispel were more prone to participate in the bison hunt than were the Lower Kalispel, whose subsistence requirements were easily satisfied within their own domain. The arrival of the horse thus amplified the bipartite differentiation of the Kalispel, and was responsible for the disruption of the aboriginal settlement pattern of the Upper Kalispel. Where previously there had been a strong westward movement of the Upper Kalispel in summer to fishing stations and root grounds in Lower Kalispel territory, the Upper Kalispel instead began moving eastward and spending the summers hunting bison with the Pend d'Oreille and Flathead. At least one roving Upper Kalispel band may actually have become politically aligned with the Pend d'Oreille (Chalfant 1974c:197).

The fur trade was responsible for the first contacts of the Kalispel with Euroamericans when David Thompson established Kullyspell House on Lake Pend Oreille in 1809. The main center of the Kalispel, near Cusick, was on a major travel route used several times a year between Fort Colville and Flathead and Kutenai posts between 1825-1871. However, the fur trade apparently did not affect the Kalispel as much as the acquisition of the horse.

The next major influence on the Kalispel was the arrival of Father Pierre-Jean DeSmet, who stopped off on a trip to Fort Colville in 1841 to visit the main center of the Kalispel. The missionaries were to play an influential, albeit discontinuous, role during the next century of Kalispel history. Information on this period is derived primarily from Carriker (1973) and Chalfant (1974c). DeSmet performed a number of baptisms in 1841, and returned again the next year to baptize more of the Kalispel who were quite receptive to Christianity. DeSmet selected a large cave near the main Kalispel center for services, naming it New Manresa in honor of a Spanish cave significant in Jesuit history (Carriker 1973:25). At DeSmet's request, Father Adrian Hoecken began working among the Kalispel. He was joined in 1844 by another priest and two lay brothers, and they set about constructing a settlement of log buildings near the main Kalispel village site. About 300 acres were sown in grain, and poultry and livestock were raised. Construction of St. Ignatius Mission was completed in the spring of 1848.

Unfortunately, the location chosen by DeSmet for the mission and its adjacent community was poorly suited for agriculture. Floods in 1845 and 1846 inundated the newly-sown fields, and it wasn't until 1847 that the first successful crops were harvested. In 1848 new gardens were planted on the hillside above the floodplain and additional buildings were constructed. Dr. George Suckley of Isaac Stevens' railroad exploration party visited the Kalispel in 1853 and was quite impressed with the Kalispel's 160-acre terraced farm.

For several years, Father Hoecken had been requesting permission from his superiors to move the mission and finally, in 1854, St. Ignatius Mission was moved to its present site in Montana. The Kalispel moved with the mission, but shortly thereafter returned to their homeland on the Pend Oreille River because they felt they could not keep their autonomy (Chalfant 1974c:194).

Although no narrators are now available who had any contact with these early priests, many of the Kalispel people continue to maintain strong ties with the Catholic Church and the priests who have ministered to them in more recent years. Several informants emphasized the impact that the Jesuits had on the Kalispel and related that the Manresa caves were still considered to be an important religious site. One of the Kalispel remembered a service held in 1944 to commemorate the 100th anniversary of DeSmet's use of the caves and indicated that yearly services have been re-established there.

The next step in Kalispel interaction with the Euroamericans was in regard to land cession. At Territorial Governor Isaac Stevens' request, Dr. R.H. Lansdale met with Victor in 1856 to negotiate a treaty. Victor agreed to move to the Flathead Reservation if his people could keep

possession of about half of the lands the government wanted the Kalispel to cede. Lansdale could not agree and the council was dissolved.

The Yakima War, which had diverted Stevens' attention from resolving the Kalispel problem, expanded in 1858, but the Kalispel officially declined an invitation from the Spokane and Coeur d'Alene to join in. Only a few Kalispel participated, one of them ironically being the first casualty of the combined war party's first skirmish (Carriker 1973:42).

Western civilization continued its inexorable encroachment during the 1860s when sporadic gold strikes were made within Kalispel territory. Hundreds of additional miners passed through Kalispel territory on the Wild Horse Trail. From 1868 to 1878, Father A. Diomedé visited the Kalispel occasionally, and a three-volume dictionary of the Kalispel language was completed by three Jesuit scholars. However, for the most part, the Kalispel were left by themselves to continue to pursue an essentially aboriginal economy augmented by some agriculture.

In 1872, the Shanks Commission proposed a reservation along the Idaho-Washington border, but it never went beyond the Washington, D.C., bureaucracy. The Northern Pacific Railroad entered Kalispel territory in 1879, passing around Lake Pend Oreille in 1881 and qualifying for a huge land grant. By 1884, homestead claims were being filed on Kalispel lands and heavy pressures of Euroamerican settlement began to be felt. A lead boom at Metaline Falls in 1885 led to the establishment of steamboat traffic on the Pend Oreille River between Newport and Ione.

In hopes of avoiding bloodshed, Victor traveled to the Colville Agency to visit the Indian Agent, S. Waters. Waters attempted to get a reservation established for the Kalispel, or at least allotments, and kept trying even after he was replaced in 1885. By 1886, the Kalispel were reverting to scare tactics to frighten the Euroamericans away, but there is no definite evidence of any foul play on either side (Carriker 1973:58). Troops at Fort Sherman and Fort Spokane were placed on the alert and a cavalry unit from Fort Sherman was moved to the vicinity.

In 1887, the Northwest Indian Commission met with the Kalispel in Sandpoint. The leader of the Upper Kalispel, Michael, signed a treaty and 63 Upper Kalispel moved to the Flathead Reservation. Masselow, Victor's son and chief of the Lower Kalispel, would not agree to leave their traditional homeland, and refused to sign. Without Masselow's signature, the treaty was never ratified.

Victor died in 1887, and the Kalispel lost a leader who had been true to the cause of their culture and yet had not been inflexible in his dealings with the Euroamericans.

The construction of the Great Northern Railroad in 1890 brought more settlers into Kalispel territory. In 1895, a survey of Kalispel lands and a census were conducted. John W. Bubb, the Colville Indian Agent, went as far as to personally take some Kalispel to Spokane to file homestead claims because official allotments were being delayed. In 1903, the Kalispel were transferred to a new agency at Fort Spokane. For some years, the Kalispel had been in the ironic position of being squatters on sections of land which had been granted to the Northern Pacific Railroad. In 1906, the General Land Office permitted the Northern Pacific to take 2500 acres in alternate lands for those which the Kalispel occupied. During these years, there had also been considerable local and nonlocal Euroamerican resistance to the Kalispel being granted allotments. Indian Agent Clare Hunt proposed allotments averaging 40 acres each and requested compensation to the Kalispel for lands they had lost, but the Indian Bureau would not approve it.

In 1911, Masselow traveled to Gonzaga College and presented himself to Father Louis Taelman, previously a missionary on the Flathead Reservation, who could speak Kalispel. This knowledge of the language was an important attribute, for very few Kalispel even at this late date could speak English, much less read or write it. Taelman took up the Kalispel cause with some vigor, and, capitalizing on the publicity Masselow's visit had occasioned, made a strong appeal for Kalispel education. In 1913, a government-sponsored school was constructed for the Kalispel and in 1914, President Woodrow Wilson, by Executive Order, set aside 4629 acres on the east side of the Pend Oreille River as a Kalispel Reservation.

Masselow died in 1920. His successor, John Bigsmoke, attempted to renew the Kalispel agricultural enterprise without success. Much land was subsequently leased to Euroamerican farmers. John Bigsmoke died in 1926, and his son, Baptiste, became chief. Baptiste made an unsuccessful attempt to obtain compensation for the loss of the Kalispel's traditional lands.

During the Depression, the CCC built some homes on the Kalispel Reservation and a few Kalispels were employed on Work Projects Administration (WPA) programs. The Johnson-O'Malley Act instituted a new reservation education program. The Indian Reorganization Act of 1938 required the Kalispel to charter themselves under a new constitution as the Kalispel Indian Community. These and the ensuing years were difficult ones for the Kalispel who were in the limbo of reservation life.

In 1958, the Indian Claims Commission offered the opinion that the Kalispel had been systematically denied use of their lands and in 1963, \$2.7 million was appropriated to the Kalispel in restitution. However, the appropriation was stalled by the Senate Committee on Interior and Insular Affairs chaired by Senator Henry M. Jackson. The Committee would allow release of the money only if the Kalispel agreed to termination of federal supervision. The Kalispel refused. Pressure was brought to bear on behalf of the Kalispel by the Affiliated Tribes of Northwest Indians, and finally the committee objections were removed.

In October, 1965, the Kalispel at last had permission to proceed with their tribal-wide program which included housing, youth education and development, employment enterprises, and a community center. In 1967, a new constitution was adopted by the Kalispel. The same year also saw renewed insecurities as the spectre of termination was again raised by Jackson's Committee. Congressman Tom Foley pledged to support the Kalispel, but Jackson cancelled his plans to enter terminal legislation. In fact, the threat of Kalispel termination had only been a political ploy to pressure the Indian Bureau into a favorable response regarding some unrelated matters (Carriker 1973: 96-97).

By 1970, the Kalispel were buying back land adjoining the reservation as well as allotments from members. The educational level was being raised, one young Kalispel man winning a Ford Foundation Leadership Grant. Employment of tribal members is still a problem among a group who had supported themselves into the twentieth century, but the establishment of a box factory on tribal lands and experiments in livestock raising have offered a few new avenues of work.

Kalispel interviewed for the *Oral Traditions Overview* Volume of this project indicated that because the Kalispel was a small tribe, it was overlooked by the government in relation to larger and more vocal groups. This problem has evidently been relieved, to a certain degree, by the removal of the Kalispel authority and records from the Nez Perce to the Spokane Agency (Culloyah Volume II, Informal Interview, Appendix A).

According to Tribal Chairman, Francis Culloyah, the Kalispel are still bitter about their treatment, and are currently attempting to obtain an additional 8600 acres of reservation land from the Forest Service. This additional property would give them a land base which would allow for needed economic development.

THE KUTENAI

The ethnographic literature pertaining to the Kuteani is very sketchy at best, and abounds in contradiction. The bulk of the following summary has been distilled from Turney-High (1941), the only published ethnography for the Kuteani. Where appropriate, more detailed or accurate information is added from other sources. Regarding Lower Kuteani subsistence and settlement patterns, Claude Schaeffer's work (1940 and 1937) is more comprehensive while that of Lindburg (1962) is considered more authoritative with respect to social organization. Causton and Otter (1954) and Baker (1955) have provided information about the historic period.

Origin and Territory

That part of the study area between the Montana-Idaho border and the summit of the Selkirk Range and between the International Boundary and the divide between the Kootenai and Pend Oreille drainages was part of the territory of the Lower Kutenai. They are so named because of their position on the Kootenai River with respect to the upriver groups. The Kutenai as a people inhabited a territory that included the entire drainage of the Kootenai River in Canada and the United States. The boundary between the Upper and Lower Kutenai was in the vicinity of Kootenai Falls, extending north and south along the Purcell and Cabinet Mountains.

The Kutenai spoke a distinct language; according to one linguist, it is very distantly related to Salishan (Morgan 1977). That the Kutenai language is so unlike all others indicates that they have remained in relative isolation from other linguistic groups for a considerable length of time, most of it probably in the area they inhabited at the beginning of the historic period. Archaeological research on the Kootenai River suggests that the Kutenai have inhabited parts of the study area for at least 3,000 years, and probably much longer (Choquette and Holstine 1980).

Technology and Material Culture

Work in stone was generally comparable to that of surrounding groups, although the technique of abrasion does not seem to have been frequently employed. Chipping by percussion and pressure was used to make a variety of cutting, scraping, perforating, and cleaving implements. While Turney-High (1941:84) states that the Lower Kutenai never used stone arrow points, the large number of such artifacts in

collections from Lower Kutenai territory indicates that such a statement is in error. He also indicates that the Lower Kutenai were not aware of stone quarries in their immediate vicinity, a statement corroborated by the archaeological record; the major source of stone used by the Lower Kutenai was to the north adjacent to Kootenay Lake, British Columbia (Choquette 1981). Mauls and pestles were shaped by pecking while sandstone shaft smoothers among the rare abraded stone tools.

The Lower Kutenai made considerable use of vegetal products. Ropes were made of twined silverberry bark while dogbane fibers were twined into fish lines and various lashings. A wide range of sizes, shapes, and functions of coiled baskets were in use. These water-tight containers were made from cedar roots. Bark containers were used for storage and berry gathering. Cedar bowls served as cooking vessels and eating dishes. Boxes for storage were also made of pieces of cedar folded and sewn. Bark and cattail mats were the typical form of lodge covering.

Kutenai bows were of two main types, a recurved, sinew-wrapped variety of yew and flat bows of cedar or juniper bent only by the tension of the string. The Lower Kutenai are usually referred to in the early historic literature as Arcs or Plats or Flat Bows. Arrow shafts were of cedar or, preferably, ocean spray. When circumstances required, the Lower Kutenai wore armor of dogbane or ocean spray rods. Their canoes had white pine bark covers sealed with pitch over cedar frames lashed with seasoned strips of dogbane.

As among the Kalispel, the Kutenai archaeological record displays a de-emphasized bone industry. Abraded bone splinters were used for awls and harpoon tips, antler also being employed for the latter. Caribou and moose antlers were sometimes used as dishes (Schaeffer 1937).

Other animal products were more important. Sinew or bear gut was used for bow strings, and hide strips were made into ropes. The Kutenai considered hideworking a high art, and had a tendency to allot special functions to certain species; for example, rough hides such as those of elk and moose were used for containers, ropes, and footgear while the lighter deer and caribou hides were made into clothing. The typical male outfit consisted of a shirt, leggings, a breechclout, and moccasins while the women wore buckskin dresses, moccasins, and, in cold weather, knee-length leggings. Rawhide hats with brims and willow wreaths were worn in summer, fur caps in winter.

The method for tanning hides, other than those of bison described by Turney-High (1941:80-81), is as follows. The hide was soaked in water for a day, and the hair was removed with a rib tool having a sharpened edge. The hide was then dried, soaked in water, attached to a firm object and wrung out until as dry as possible. Then it was immersed in a mixture of brains and water for about a half hour and again wrung out, this process being repeated until the hide was white. Then it was dried in the sun and scraped. The hide was then ready for clothing. If desired for moccasins, it was smoked over a fire of rotten wood.

The Kutenai were not known for elaborate decoration or ornamentation. Only three colors (dark red, light red, and white) were used for face painting (Turney-High 1941:94). A black dye from wild carrot root and green from a type of mountain grass were used to decorate baskets. The Kutenai esthetic sense placed a high value on whiteness of clothing. Ornamentation was restricted to long fringes, dress clothes and hide containers were valued objects having the longest fringes.

Land and Resource Use

The area inhabited by the Lower Kutenai was well watered and heavily forested. Hunting of big game was not as significant in their economy as it was to their upriver relatives in whose territory a wide variety of big game species abounded. On the other hand, Lower Kutenai territory was well stocked with fish and a significant amount of energy was devoted to fishing-related activities. A discussion of the seasonal round of the Lower Kutenai illustrates the degree to which their lifestyle was adapted to the seasonal and topographic variability that characterized their environment.

The breaking up of river ice marked the beginning of a new annual subsistence round. The first intensive subsistence activity was netting of waterfowl, great numbers of which passed up the valley along a major flyway. This hunt was a communal undertaking under the direction of the Duck Chief. A net strung between two poles was set at the upwind end of a slough known to contain a large number of birds. At a signal from the Duck Chief, the birds were flushed and the net was raised in time to ensnare them. Exact timing and coordination was required here to maximize the catch which was subsequently distributed among the camp members. Waterfowl hunting areas varied little from year to year (Schaeffer 1937).

Fall saw a shift to hunting. Waterfowl netting was again directed by the Duck Chief, the numerous birds again being distributed throughout the camp. The catch was cleaned, dried, and stored for winter in cedar boxes. Occasionally a communal deer hunt was undertaken, but usually small parties went into the mountains after mountain goats, elk, and bears, the former being second in importance to deer to the Lower Kutenai.

With the arrival of cold weather, casual fishing was done through the ice for ling and char. The major deer hunts were conducted in winter, under the direction of the Deer Chief. Most of these hunts were held to the east of Bonners Ferry. A variety of tactics were employed, depending upon local conditions. Sometimes a surround was used, the encircling ring of hunters closing in and shooting the deer as they attempted to break through. Drives up small tributary valleys were typical where the deer were driven into deep snow or onto steep terrain by hunters on snowshoes. The north side of the Kootenai River was a favored area for this tactic. Other drives were held on islands where the hunters would sweep the island from one end to the other. Another technique utilizing dogs involved driving the deer down to a free-flowing stretch of river, the location of which had been chosen beforehand. The deer would try to escape by swimming and would be swept downriver to the edge of the river ice where they were seized by hunters who dragged them up onto the ice and dispatched them, or they were shot from canoes. The Lower Kutenai did not hunt the same territory again the following year. Other winter subsistence activities included intensive ice fishing for ling and hunting of bears in their dens.

Settlement Pattern

There is little information in the ethnographic literature regarding the size or specific locations of Lower Kutenai camps. It is apparent that the size of a camp depended upon the economic importance of the activities which were being undertaken in its vicinity.

Thus, the largest camps were undoubtedly associated with summer fish trapping on the Kootenai River floodplain. Not only were most Lower Kutenai engaged in this activity, but members of upriver bands augmented their number as well. Since at this time the floodplain meadows were inundated, a strategically located area of level, higher ground would have been chosen for the site of the main camp. Schaeffer (1937) indicates that the primary period of fish trapping was in June and July as the floodwaters receded. It can be assumed that a base camp was established in the Bonners Ferry vicinity at this time, but as the focus of fishing activity shifted northward with the recession of the floodwaters, other camps would have been established near the floodplain further north. Causton and Otter (1954) mention Lower Kutenai camps near Jerome Slough and near Porthill.

Large base camps were also established in late summer-early fall adjacent to the tribal berry patches and in the localities of the communal deer hunts. The latter camps were occupied for about two weeks, during which the locality was hunted intensively. The base camp was then moved to another locality (Schaeffer 1940:19). The base camps would have been located along the north side of the Kootenai valley east of Bonners Ferry.

At other times of the year, small temporary camps were occupied by small hunting, fishing, or gathering groups. Such campsites would obviously be located as near to the particular subsistence resource as relatively level ground, adequate drainage, fresh water, and fuel allowed.

Schaeffer (1937) described a winter settlement pattern for the Lower Kutenai that is unlike the typical winter village pattern of the Columbia Plateau. In the wintertime, the Lower Kutenai population was dispersed in family groups northward along the Kootenai Valley towards Kootenay Lake. Each family group occupied a definite territory, the ownership of which was hereditary. Here the individual families supported themselves by ice fishing and localized hunting which augmented food supplies cached earlier in the year. Causton and Otter (1954) also indicate that families wintered separately, although their information derives from the fur trade period.

The time depth of this pattern is not known, but it certainly would have been adaptive in prehistoric times for minimizing impact on winter fuel resources in a single locality. Furthermore, parties or individuals traveling from a single winter village to fish individual tributaries of the Kootenai River and hunt such animals as dennded bears would not be as efficient as subsistence tactic when food resources were least abundant as would small groups seasonally dispersed over a large area subsisting upon these low density food resources.

Housing

As described by Turney-High (1941), Lower Kutenai dwellings were similar to those of the Kalispel, except that the Kutenai completely disavow any use of the semisubterranean earth lodge. This latter statement is fully supported by the archaeological record for Kutenai territory.

The usual summer dwelling was a mat-covered tipi. Turney-High (1941:62) reported that the mats were made from dogbane, but Schaeffer (1937) indicated that cattail and bark mats were also used. There were three or four rows of mats, depending upon the height of the prospective lodge. The foundation was of four poles.

In winter, a long lodge of bipod A-frames was inhabited by up to four families. The covering consisted of the pooled mats from the families' summer lodges.

Sweat lodges were dome-shaped structures with elliptical floor plans. The frames were made of young fir boughs tied together if covered with sod and earth, or of willows or silverberry with mat or hide coverings.

Social Organization

In late Prehistoric times, there were at least four major "divisions" of the Kutenai: the Plains Kutenai, the Upper Kutenai who inhabited the Rocky Mountain Trench, the Mid-river Kutenai whose territory was centered on the big bend of the Kootenai River east of the Purcell and Cabinet Mountains, and the Lower Kutenai who were centered in the Purcell Trench in Idaho and southeastern British Columbia. There were at least three bands of Lower Kutenai, centered in the vicinities of present-day Bonners Ferry, Idaho, Creston, B.C., and Nelson, B.C. (Lindburg 1962:6). The following discussion is concerned specifically with Lower Kutenai social organization.

Each band was politically autonomous, having its own leadership and governing body or council. Membership was flexible, however, and individuals could move freely from one band to another. The bands were linked to each other through ties of kinship and marriage. A person was known as a member of the band where he or she was born, regardless of his or her principal place of residence (Lindburg 1962:20).

The basic social unit was the extended family which consisted ideally of a woman, her husband, their married daughters, and unmarried sons. Residence was predominantly matrilineal but descent was weakly bilateral. The families aggregated into groups according to the particular activities of the economic cycle. There is some suggestion that where the unit activity was not communal or band-wide in nature, camp size depended in part upon the ability of a group leader to attract followers (Lindburg 1962:20).

There was no single position of band leadership that might be designated as band or head chief (Lindburg 1962:24). Instead, the economic or seasonal chiefs were the main chiefs in their seasons. The Fish Chief supervised the activities preceding communal fish trapping such as building new canoes and preparing fish weirs and nets. It was also his responsibility to decide upon the appropriate time to begin setting the weirs at the outlets of the sloughs. The Duck Chief supervised the construction and placement of nets and the stationing of bowmen in strategic positions in the area of the drive and coordinated the drive itself. All chiefs supervised the distribution of the catch and lectured individuals against selfishness; they were also responsible for their band's safety and well-being. Because of the requirement for great knowledge and "power" to predict the appropriate time to engage in a particular subsistence activity and to coordinate the efforts of those engaging in the undertaking, every seasonal chief was a shaman. The qualifications for leadership were honesty, administrative ability, and generosity, but the essential sanction for leadership was spiritual in nature (Lindburg 1962:25). The seasonal chief assumed his position by common consent, but the informal decision about who might be eligible was made by the band council of elders. A seasonal chief could succeed himself year after year, although failure in carrying out his function successfully would cause the band council to reconsider their sanction. An individual might fill two seasonal chief positions, but none of Lindburg's informants could recall any person ever having enough power to fill all three (Lindburg 1962:24).

Besides the band council, other functionally specific groups were an organization of shamans and perhaps the Crazy Dog Society. The latter was a definite feature of Upper Kutenai social organization where the war complex was highly developed. Among the Lower Kutenai, the office of War Chief was late and weakly developed (Lindburg 1962:55).

Religious and Ceremonial Life

Historic and ethnographic literature abounds with references to the Kutenais' honesty and high moral character. The Kutenai are a deeply religious people, and spirituality was a part of almost all aspects of their aboriginal lifeway.

The course of an individual's life was in large measure determined by his guardian spirit, the assistance of whom was sought during a vision quest. An adolescent boy or girl spent several nights alone in an isolated locality or place of power, during which time he or she would

be visited by a spirit. The spirit would provide the individual with personalized means of obtaining spiritual guidance and assistance, usually a medicine song and sacred objects to be kept in a medicine bundle.

Those who obtained strong spiritual powers became shamans. Some shamans had healing abilities while others possessed divinitory powers. Among the latter were the seasonal chiefs who conducted divinitory ceremonies prior to the commencement of communal fish trapping, waterfowl netting, or hunting endeavors.

The Kutenai recognize a supreme deity, but also are aware that spiritual power is vested in natural surroundings and objects as well. Thus, the first fish caught during communal trapping and the first important plant foods were offered in first fruits ceremonies in which thanksgiving prayers were offered and group well-being and safety were requested. Certain portions of the deer from the winter hunt were saved for use in the most important Kutenai religious ceremony, the Sun Dance. This was the only event which brought all the Kutenai together as a group (Turney-High 1941:178; Lindburg 1962: 31). The time and place of the Sun Dance were dictated to a sponsoring individual by the Sun Dance Spirit. The Grizzly Bear Dance was also an important Kutenai religious rite, held at the beginning of berry picking season. The Kutenai also had a Midwinter Festival, perhaps a borrowing from the neighboring Salish (Turney-High 1941:187). The Kutenai were unique among peoples living west of the Continental Divide in that they cultivated tobacco, which was smoked only in a religious context, with prayers offered to the supernaturals.

There were a number of social ceremonies as well, including a variety of dances and games. The most popular of the latter was a lacrosse-like ball game (Turney-High 1941:160) and the stick game.

The death of an individual was followed by the moving of the family home to another place. If a chief died, the whole camp was moved. A variety of means of disposal of the dead are reported, none of them elaborate. Turney-High (1941:1190120) mentions inhumation in a shallow grave with the body extended and burial beneath a cairn; some of his informants claim that flexed burial was the old method. Causton and Otter (1954) and one of Baker's (1955) informants state that the dead were placed on scaffolds in earlier times.

Travel and External Relations

Because the territory of the Lower Kutenai was heavily forested and well supplied with riverine food resources, horses were not as useful as they were to the upriver bands and so did not have much impact upon Lower Kutenai lifeways. They continued to use their distinctive "sturgeon-nosed" canoes as their primary mode of transportation, adopting canvas as a covering when it became available. Otherwise, travel was on foot, aided in wintertime by snowshoes. Dogs were used as pack animals, but the travois was not employed.

The geography of the Kootenay Region is such that the region is isolated by rugged mountains and thick forests. The configuration of the river itself lends a certain self-containment to the area it drains. Consequently, the Kutenai have remained relatively isolated from other human populations, as is indicated by linguistic relationships. Trade was not a major aspect of the Kutenai economy. This is not to say that contact did not occur, for the Kutenai seem to have availed themselves of most major innovations. However, exotic items such as obsidian, catlinite, and marine shells are a very minor element in the archaeological material culture.

Major ethnographic and ethnohistoric works such as Turney-High (1941) and Anastasio (1972) make little reference to Kutenai external relations. As with other peoples having transmountain proveniences, the Kutenai were involved in hostilities with the Blackfoot Nation; however, raids by the Blackfoot into Lower Kutenai territory were rare. It seems that there were more direct assaults on the Lower Kutenai by the Kalispel and Coeur d'Alene. Relations between the Lower Kutenai and the Kalispel seem to have been traditionally unfriendly during the Late Prehistoric and Protohistoric periods (Causton and Otter 1954; Chamberlain 1892) but after 1800, relations between the Kutenai and neighboring Salish groups had improved to the extent that intermarriage and mutual sharing of subsistence resources were occurring (Schaeffer 1937; Anastasio 1972).

Historic Period/Acculturation

The first recorded encounter between the Lower Kutenai and Euro-american men was in May 1808 when David Thompson met them in the vicinity of present-day Bonners Ferry (White 1950:27). This was apparently at the low point in their subsistence cycle, but the Kutenai provided Thompson's famished party with dried fish and black tree moss. Thompson returned in late summer of 1809 and traded tobacco and ammunition to the Lower Kutenai for food and horses before traveling south in Kalispel territory.

From the 1820s to the 1850s, the Hudson's Bay Company was in sole control of the region's fur trade. During this period, Hudson's Bay Company records show the Kutenai to have been highly productive trappers (Chance 1973). Pierre-Jean DeSmet celebrated mass with the Lower Kutenai during their annual gathering to trap fish on the Kootenai floodplain, remarking on the great numbers of fish taken, and visited them again in 1846 (Chittenden and Richardson 1905). In 1859, the Lower Kutenai assisted the International Boundary Commission as it worked its way through their territory. The Wild Horse Gold Rush brought considerable traffic through Lower Kutenai territory in the 1860s and resulted in a ferry being established in 1864 at the Boundary Commission Trail's crossing of the Kootenai River. The owners of this ferry, E.L. Bonner and his partners, also established a trading post here.

The Flathead Indian Reservation was established in 1855 causing fragmentation of other bands of Kutenai residing south of the forty-ninth parallel. However, the Lower Kutenai claimed not to have been represented by the signers of the treaty and remained as nontreaty Indians at Bonners Ferry. In 1878, four log cabins were built by the Lower Kutenai at a wintering site on the north side of the Kootenai River about one mile west of Bonner's trading post (Causton and Otter 1954). When the leader of this settlement (Abraham) died in 1887, it was moved further west to the south end of what is now the Mission District. At this time, religious services were being provided by a priest who visited once a year for about three weeks from DeSmet, Idaho. A log church was erected in 1888, but it collapsed; the residents of Bonners Ferry donated lumber to build another. The first house in this village was constructed in 1895, after the U.S. government gave the Lower Kutenai an allotment of land. Unfortunately, a government agent had gone out with the Indians previously and posted allotments for each, but Euroamericans had occupied these lands and refused to leave. When Major Ronan arrived to do the same thing again, the Kutenai were skeptical; only about 40 gave their names and received allotments in 1895 (Causton and Otter 1954). More houses were built in 1902, and another church was added in 1907. By this time, there were 18 houses in a circle around the church, built of scrap and salvaged lumber. New houses were added by the government in 1931.

During this period, there occurred a gradual shift in the Lower Kutenai economy, away from the aboriginal subsistence round to a life-style in which agriculture, then paid labor, successively played important parts. Each Kutenai had owned several head of stock and horses when they had the run of the valley. The Kutenai at this time were apparently rather successful farmers (Chance 1973); in 1900, Isaac Adams received first prize for apples at the Spokane Fair (Baker 1955: 35). They cut wild hay and sold some of it to the Euroamericans (Causton and Otter 1954). With increased settlement came fences and loss of the Kutenai's freedom to run stock on much of what had been their land;

their herds also suffered considerable attrition. Many Kutenai began to work for Euroamericans, hauling water, clearing land, and sawing and splitting wood. As population and mechanization increased, however, this form of employment was eliminated. In addition, the seasonality of fish and game laws restricted the Kutenais' ability to catch and preserve sufficient quantities of fish and waterfowl.

These were extremely hard years for the Kutenai. An epidemic of "black smallpox" in 1900 had further decimated their population after epidemics during the protohistoric period. Tuberculosis continued to be a major health problem until the middle of the twentieth century.

Lower Kutenai children began going to school with Euroamericans in 1945 (Baker 1955:51). Causton and Otter describe how the traditional seven-day long Midwinter Dance was split over two weekends so that the children would not lose sleep which would affect their schooling.

Even though the horse had little impact upon Lower Kutenai lifeways, the scant literature pertaining to their culture does reveal cultural changes such as the shifts in subsistence economy described previously. Lindburg's study led him to the conclusion that the Lower Kutenai did not have any single position of leadership that might be designated as band or head chief (Lindburg 1962:24). Causton and Otter (1954) both refer to individual Lower Kutenai chiefs by name and provide a list of chiefs. This list goes back only to the time of Three Moon, however, who died in 1840. The cause of this change in political organization is not clear, but it probably was the result of a combination of population reduction due to epidemics, changes in subsistence practices beginning with the fur trade, and the growing necessity to articulate with outsiders, particularly Euro-american men. Kutenai practices of disposal of the dead apparently also changed. According to Causton and Otter (1954), Three Moon was the first to have been buried. Burial apparently only became common after the arrival of missionaries.

THE COLVILLE

There is no ethnography specifically of the Colville but fragmentary data exist in a substantial number of sources, especially Teit (1930), Ray (1932), Spier (1938), Rauffer (1966), Louie et al. (1980), Chance (1973), Chance et al. (1977), and Chance (1975). Until serious archaeological work began at Kettle Falls in the early 1970s, the Colville were barely mentioned in most ethnographic works on the Columbia Plateau. This lack of information was perhaps partly a result of the decline in American ethnography that occurred after the Second World War. The surviving fragments of information on the Colville occur in such small bits that in a paper of this size, it is best to simply draw some of them together in summary.

Origin

The technological inventory presented already in this study for the other Native American groups is not sufficiently different with the Colville to require repetition. Significant departures only will be mentioned.

Since there is no ethnography and because the information we have has many gaps in it, what can be said about the Colville must rest on extrapolation from slightly better information concerning other Native American groups that spoke dialects of the same language, especially the Okanogan and the Sanpoil/Nespelem. It appears that, in some respects, these dialectical groups differed, and it seems certain the Colville shared some traits with the Kalispel, ones not common to the other dialectical groups of the Okanogan language. Consequently, information should be borrowed with caution.

The Colville were divided into a number of territorial bands, but how they were divided, and what the bands were called, is a matter of varying conjecture based on fragments of evidence. In 1829, only two bands were recognized by the fur trader, John Work (1829), a northern band and a southern band, the northern being centered at Kettle Falls, and the southern at Grand Rapids, only 10 miles south of Kettle Falls. It is very probable that the definition of these two bands was the result of Work's oversimplification based on his grouping several bands together and by the coalescence of a large number of bands into a smaller number due to the groups decimation by disease. The most recent evidence obtained from Native American consultations by Bouchard and Kennedy (1979) suggests the existence of at least four remembered

bands, those of Inchelium, Rickey Rapids, the Colville Valley, and the lower Kettle Valley. This is recent oral history evidence and it must be modified by historical and archaeological information.

Since Work stated that the Kettle Falls Indians extended up the Columbia as far as the Little Dalles into an area taken over by the Sinaikst or Lakes in the latter half of the nineteenth century, it is quite reasonable to posit a fifth band occupying, in the non-summer months, a stretch of the Columbia River above Kettle Falls. Additionally, the Colville River band, which Bouchard and Kennedy regard as rather insecurely identified by modern consultants, is perhaps that of the dominant group at Kettle Falls itself, centered on the east bank of the river at Kettle Falls. However, the presence of a chief in 1825 at Marcus flats with power to negotiate the loan of the site of Fort Colville and the retention of Native American fishing rights at Kettle Falls (Merk 1931) indicates a possible sixth band, the Shwayip.

That there were significant numbers of Native Americans resident in the lower Colville Valley is beyond doubt on both historical and archaeological grounds. The present town of Colville was the home of the band chief, Quil Quil Louie, until the early 1880s.

We thus arrive at a figure of five or six probable territorial bands for the Colville in late precontact times, before the epidemics of the 1780s. That they had a language of their own seems doubtful because the linguistic differences between Colville and Lakes, or the Sanpoil, were themselves on just the dialectical level. This of course, suggests that the divergence of the ethnolinguistic entities of Colville, Sanpoil, and Lakes has little time depth. This lack of linguistic difference means that in discussing the culture of the Colville, we are talking about only a relatively recent state of affairs, something that goes back only centuries and not millenia; and, further, that this culture was never static but always changing. Archaeological evidence from Kettle Falls suggests very strongly that the pattern we are attempting to reconstruct is not older than 550 B.P.

Evidence suggests that the minimal social and residential unit of most of the Colville during part of the year was a band averaging about 30, which in accordance with current usage we term the minimum-band. It is likely that the size of the minimum-band ranged from about a dozen individuals to perhaps 40 or 50. The five or six bands that we suggest for the Colville would thus have been each broken down on

occasion into several of these minimum-bands. How stable the makeup of these bands would have been dependent upon a number of factors such as the condition of resources, the amount of friction, the attractive powers of minimum-band leaders, disease, etc.

It is probable that even the larger territorial bands would have suffered some instability in their makeup, with minimum-bands periodically leaving the allegiance of one band to join another that was in close proximity. Even the territorial bands may have been somewhat ambiguous in their membership within tribes such as the Colville or Lakes. This ambiguity might account, for example, for the varying testimony regarding the affiliation of the Kettle River people, whether they were Colville or Lakes. An examination of Norman Lerman's (1954) data shows that the Kettle River people were not a part of the Okanogan ethnolinguistic tribe.

We are suggesting a hierarchical model for the Colville that would apply to other neighboring southern Interior Salish groups. But it is not a simple hierarchy, for it would seem that among the minimum-bands of the larger macro-band there was most likely at least a geographical focus, occupied by one of the minimum-bands. This geographical focus is suggested by the archaeological evidence more than any other factor. And such would appear to mirror the situation on the next rung of the social ladder where one of the macro-bands, in the case of the Colville, the Indians of the Kettle Falls area commanded the main geographical and resource focus of the Colville and apparently provided the dominating political leadership. Even further up the ladder we may note a possible repeat of the situation with the Colville as a whole being a dominant group within the set of Colville, Lakes, Sanpoil, and the Kalispel band at Chewelah. In other words, each hierarchical level would not consist of equals, but rather of a dominant and subordinate elements by virtue of the command of important locations and resources.

With a population prior to 1780 of at least 700 to 1000 people, the Colville would, if broken into five or six territorial bands, have been made up of about 25 minimum-bands with four to five per macro-band. This division would seem to be very roughly supported by an examination of the locations of the major archaeological site clusters.

The above is a model which is an overrationalized explanation to suit the facts. There were great benefits for this level of economy in flexibility so that the people could adjust to changing fortunes of particular resources, especially the animal protein resources which fluctuated more than the plant resources.

Languages

The Colville were speakers of the eastern branch or dialect group of the Colville-Okanogan language (Bouchard and Kennedy 1979). Other members of this dialect group were the Okanogan, Sanpoil-Nespelem, and the Lakes or Sinaikst. This eastern branch essentially occupied most of the Columbia River from below Nespelem, Washington, up to the vicinity of Revelstoke, B.C., at the head of the Upper Arrow Lake. The Colville-Okanogan and the Spokane-Kalispel-Flathead languages to the east were both members of the southern branch of the Interior Salish sub-family of languages.

Area Occupied

The area occupied by the Colville has been variously estimated, and has been the subject of litigation. It is therefore a sensitive subject. If we include much of the Kettle River drainage within the Colville territory, then it is reasonable to estimate that the area occupied by these people amounted to about 2800 square miles. The size of this area is quite a bit more than an earlier estimate (Chance 1973) of 1900 square miles. The chief difference is the addition of the Kettle River drainage, extending the proposed range of the Colville westward to about halfway between Midway and Rock Creek on the Kettle River. This area incorporates an archaeological zone that appears to be continuous with the mouth of the Kettle River, beyond which, to the west, there seems to be a low density area separating the lower half of the Kettle River drainage system from the Okanogan watershed. About one-fourth of the Colville territory as outlined here would lie within present British Columbia. The extension into so much of the Kettle River drainage is also done to allow for a sufficient hinterland for the Colville, who otherwise would have been very short of sufficient hunting territory to sustain themselves. This extension is made because it is believed there was not sufficient regularity in the salmon runs at Kettle Falls for these people to weather the gaps between years of good runs.

Of course, one must never think that southern Interior Salish groups held exclusive rights to territories as we may circumscribe them on maps. In fact, many resources were shared to some degree, often on a reciprocal basis. In the last century, the Colville were allied through marriage to all groups surrounding them. Such marriage "alliances" would naturally extend the benefit of rights in all directions since inheritance of such rights did not follow any known lines of kinship to the exclusion of others. For many purposes, the minimum-band was probably the primary land-holding entity to the extent to which lands were held. The degrees to which the benefits of those legal rights were recognized was probably dependent upon the resource; [the system of rights over mammals was probably different from that over fish]. There seems to have been progressively heightened recognition of rights as one moved from roots to mammals to fish.

In calculating Colville territory, the common method, the one employed here, is to trace a boundary along ridge crests and to draw lines from a point on a ridge crest to another where we have information to suggest that the "boundary" crosses perpendicular to a major river. The area described below corresponds to the broader definitions for the north, recently available from Native American consultants, but is a little short of the recently defined southern boundaries on the Columbia. John Work has been followed as the most reliable source, corroborated to some degree by some Native American consultants, in drawing the Colville/Lakes boundary across the Columbia at the Little Dalles.

The boundary used for the Colville territory begins on the Columbia about ten miles south of Inchelium, whence it extends northwest to the west side of Twin Lakes, then north along the summit to White Mountain, thence to Republic, then to Bodie Mountain, then to a point halfway between Rock Creek and Midway, then in a wide arc across the north around to a point a little east of Paulson, B.C., thence southeast to the Little Dalles, across the Columbia and east-southeast to a point ten miles northwest of Ione, thence south and then southwest to a point two or three miles south of Addy, thence southeast to the Columbia at the point we started.

Population

Population estimates for the Colville in the last century vary between 341 and 2500 (Chance 1973:117). Most censuses that are reliable range in the vicinity of 500 to 700 persons of all ages. The population was, of course, variable because of the exotic epidemics that were striking the Colville in quick succession after circa 1785, and censuses and estimates varied also because the definition of the people being counted undoubtedly varied from one observer to the next.

A figure of 750 people for 1811, based on David Thompson's (1810) count or estimate of 150 married men, seems to be reasonable and in line with later censuses; i.e., the census of 1870 listing 616 people. Assuming some demographic rebound in the 25 or so years following the epidemics of circa 1785, it is doubtful that the Colville numbered more than about a thousand in 1750. The high figure given by Lewis and Clark for the Wheelpoo (Colville) in 1805 of about 2500 (Chance 1973), a number used by some later authorities, is difficult to accept at face value. The Indians of the southern Columbia Plateau who provided the estimate of Lewis and Clark, probably included the Lakes as being perhaps indistinguishable from the Colville, and possibly also the Sanpoil and Nespelem. Looked at in terms of this linguistic unit, the estimate is not wholly out of line for 1805, though perhaps still too high.

Estimates for the number of Indians present at the Kettle Falls fishery range up to around a thousand for any one time. This figure, however, would probably include some Okanogan, some Sanpoil, much of the Lakes, some Kalispel, and probably would not include all of the Colville. Many of the latter would not necessarily be at Kettle Falls during the summer fishing since there were other places in their territory where salmon were caught, and there were other food resources that were ready and in need of harvesting at the same time that the fish were running past the falls.

Social Organization

The most fundamental social unit of the Colville above the nuclear family was the minimum-band or Kaheh (Larry Pierre: personal communication) which consisted of a group of people related by blood or marriage. The kaheh would probably number from a dozen to three dozen people. This number of people would be the usual wintering group according to ethnohistoric data.

It is likely that even though the kaheh might be the usual wintering group, larger collections of bands would be possible in a few localities such as Kettle Falls, especially if harvests of a resource like salmon had been especially good. This larger grouping seems to have occurred, for instance, in the winter of 1830-1831 at Kettle Falls when a large part of the Lakes decided to winter at Kettle Falls after a good salmon harvest.

The minimum-band or kaheh would have its own headman. Whether or not the headman at this level was hereditary is answered by pointing out that virtually any successor would be related at least by marriage and more likely descended from the former headman. Upon marriage the couple could take up residence with either the man's or the woman's parents (Jorgensen 1969; Chance 1975) and it is likely that couples set up residences separate from either set of parents. At least one modern authority (Larry Pierre) has claimed that it was most common for couples to set up residence with the husband's family. A recent study of intertribal marriage patterns based on nineteenth century marriage records at Kettle Falls (Chance 1975) indicates that women commonly married men who belonged to groups commanding food resources that were important to the women's group. This preference or pattern might be taken to imply virilocality (residence with the husband's family), but the conclusion is not automatic.

Lineages are not known to have existed with any certainty. Loose chiefly lineages may, however, have existed given the fact that the higher levels of chieftainship were to some extent hereditary and that chiefly "lines" are mentioned by Native American consultants. Such lineages would not, however, have been named nor would they have had any corporate identity except in the usual situation of a chief's kaheh being a land-owning entity. Such "lineages" would also not have much time depth since there is evidence (Teit 1930) suggesting that "new men" were able, on occasion, to take over chieftainships left vacant for one reason or another. This may have happened among the Colville in the last century and is fairly well documented with the Okanogan (Teit 1930).

The question inevitably asked is to what extent the macro-bands of the Colville considered themselves to be members of some larger unit known in the early nineteenth century collectively as the Shwayip, Kettle Falls Indians or Chaudieres. Also, was there such a thing as a chieftainship that comprehended all of the macro-bands of the ethnolinguistic group of the Colville or Shwayip?

These entities that are labeled "macro-bands" were named in southern Interior Salish society, but we have not yet discovered a Native American generic term to cover this level of social organization. These macro-bands are what are usually called bands in the local literature. They were, by definition, territorial units, giving us the ability to attempt a reconstruction of band numbers and locations using topographic, resource, and archaeological data in the absence of specific historical references.

During the summer fishing season many, if not most, of the Colville coalesced in one place, Takmaksm (Takumakst), adjacent to the lower Kettle Falls. In summer more than at other times, they formed a political unit under a political chief, the *illimixum*. A son of the *illimixum* also had considerable, even coercive, influence going by the title of "the young chief" among Euroamericans of the 1820s and 1840s. This suggests that there was some tribal organization with a slight hint of the makings of a chiefdom.

Since fishing locations at Kettle Falls were restricted in number (Chance 1973; Chance et al. 1977) and because other ethno-linguistic groups visited and probably fished at Kettle Falls, the regulation of the fishery was a critical need. Regulation was also important because of the necessity of maximizing the catch from the various runs which would pass through the falls in schools rather than on a continuous basis (Schalk 1977). This need was furnished by the institution of salmon chief, *xatus*, which was apparently also hereditary (Chance 1975) though certainly conditional upon the individual succeeding to the position having the requisite power over or from the salmon. Such an institution was widespread in the Columbia Plateau (Treide 1965) though apparently more strongly developed among the Interior Salish than the Sahaptins. Within the Columbia Plateau, the salmon or fishing chief was most visible as an institution at Kettle Falls.

There is interesting opinion supplied by the Jesuit missionary Joseph Joset (Chance 1973) that Colville women held positions of unusual dominance over their menfolk, at least domestically. In this respect, they were said to differ starkly from even the Lakes. Joset accounted for this difference in economic terms, believing that the strongly developed hunting focus of the Lakes was more conducive to a strong nuclear family with male dominance than would be the case with the salmon-dependent Colville. This opinion may be to some extent influenced by the concept which Joset may have been exposed to, to judge from his writings.

Houses, food supplies, and other movables were "owned" by married women who could deny their spouses access to them. While this is not vastly out of alignment with the practice of the Interior Salish it was especially marked among the Colville as reported by Joset. However, we know of no historic female chiefs, and we have not been able to find clear evidence for a newlywed couple making their residence with the wife's family which is what one would expect to be associated with a strong bond between women and property rights.

House sites at the Kettle Falls fishery were apparently owned by families (Albert Louie: personal communication). This ownership suggests a rationalized summer settlement on a site that had limited space. This hereditary character of house sites suggests, in turn, that specific areas of the fishery site, though not the fishing stations, may have been held by the minimum bands or kaheh. The obvious question to be asked next is whether all the various bands of the Colville held portions of the fishery site (45ST94), or if some held other sites known to have been inhabited around the falls. The answer to this will be difficult to demonstrate ethnohistorically since the depopulation from disease prior to and during the earliest Euroamerican contacts meant that all the Colville, Lakes, and other visiting groups, could be accommodated on the fishery site in the last century.

Settlement Patterns

The following section will present a summary of the seasonal round of the Colville as it bears on their settlement pattern. One should first note that much of the settlement pattern depended on the size of the variable summer salmon harvest at Kettle Falls and lesser fisheries. In a good year, sedentism would be very great, especially for the macro-band focused on Kettle Falls itself. In a poor year, groups would scatter to root grounds during the summer. These parties would be smaller than those gathering in the late spring. In a good year, groups would disperse in the middle of September (Heron and Kittson 1831). In either case, there would be a fall hunt conducted by the most minimal social units, perhaps even nuclear families.

The coldest part of winter would witness the coming together of bands at lower altitudes, often in side valleys. If salmon stocks were abundant, there would be little food search at this time. Early spring would see a resurgence of hunting and the search for early plant foods. It was at this time that some Colville would move south and out of their territory to the Columbia Plateau. In late spring, the second largest grouping would occur on the root grounds such as at Cusick. Then in June, the highest degree of grouping would take place at the salmon fisheries. The size of the salmon harvest and the level of trade in foodstuffs would have dictated how much of this moving around the Colville actually did. That they would want to move as little as possible can be believed, since the search for food on the Columbia Plateau was extremely arduous.

This flexible model is the only way to explain the conflicting evidence on the Colville. With increasingly poor salmon harvests after the middle nineteenth century, sedentism would have declined more sharply than it did had not there been a significant shift of the Colville into agriculture and domesticated stock raising (Chance 1973).

The largest settlement of the Colville was at Kettle Falls in the summer, during which as many as a thousand people could be counted. For winter, there are no exact counts for Kettle Falls, but the sources suggest not more than around 200 people near the falls. Several fur trade sources indicate a rather even distribution of small settlements on every point of land along the Columbia in October. In early May, on the other hand, we have direct evidence of the Colville being scattered in minimum-bands in the mountains on both sides of the Columbia (Shuttleworth 1870).

About 200 place names with associated information are now known for the Colville territory (Bouchard and Kennedy 1979); however, virtually all of them are from the banks of the Columbia and are thus not on Forest Service or BLM lands. There is no possibility of listing them and their facts here since it cannot be condensed from several hundred pages and still retain any value. It is very certain that much information of this sort could be collected from living consultants.

Only one named ethnographic site is known to be on BLM lands in the Colville area. This is Kwemkenitsak, Gold Hill, just to the north of the present town of Kettle Falls. This site has a body of myth associated with it (Bouchard and Kennedy 1979), and it also may have been a lithic resource area (Albert Louie: personal communication).

Housing

The summer housing of the Colville is often assumed to have consisted of variations on the ramada or of lean-tos. However, Paul Kane's sketches and paintings and a photograph of 1861, show that many Colville summer houses were, like those of the lower Kalispel, raised off the ground on pilings and had planks for part of their roofing. The latter matches very well with the evidence of David Thompson (Glover 1962). This whole question is discussed at length

in Chance and Chance (1977). The winter houses are not as well known by direct evidence. Mat lodges are assumed to have been the norm during the last century; pithouses were used within the past four centuries on Hayes Island in the Columbia River. Unfortunately, the floral and faunal evidence associated with the houses suggest a summer residence more than they do a winter.

Religion

The religion of the Colville, as is the case with all peoples of the Columbia Plateau, is the most difficult dimension of their culture to understand. This difficulty arises partly because available information is so defective, and also because the early influence of Christianity blotted out so much. The best account of Columbia Plateau religion is that of Walter Cline (Spier 1938) and, since it concerns the southern Okanogan it may be applied with some justification to the Colville.

While religion in this area is usually considered as being centered on the quest for and use of guardian spirits, or on the medium of shamanism, Cline places power itself at the core of the religion. This power, *sumih*, could be often considered separately from the guardian spirits who were often or usually its source. The fact that power could be even derived by Coyote from his own feces (Bouchard and Kennedy 1979) is perhaps not entirely satirical, but rather indicates that power can be had from anywhere, not just from bears, birds, fish, etc. It could also be obtained from unusual physical environments, such as the bottoms of lakes. Among the Colville, as with the Spokane-Kalispel-Flathead group, the possession of Bluejay Power could be proven to others in society by extreme antisocial, even irrational, behavior.

It is perhaps enlightening if we think of this power, or *sumih*, as being almost pervasive in nature, as with the Polynesian *mana*, but nevertheless something that was not automatically available to people. It had to be obtained by good or appropriate behavior, as in much of Christianity; it could be used wisely or foolishly, and it ought to be obtained early in a person's life. Obtaining this power would be analogous to the conversion, confirmation, of baptism rite of change among some Christians. Interestingly, the first acquisition of power among the Okanogan was prior to puberty, not at puberty. Thus, it is best not to think of it simply as a puberty ritual, but rather something that must be gone through in the state of innocence prior to puberty. It is thus something separate from sex, not a part of sex.

That power was central to Colville religion is perhaps shown also by the fact that Christianity was conceived by some as a means to power, a key to the success that the fur traders and missionaries seemed to enjoy in the world. (Chance 1973).

While anthropologists have often doubted that there could have been a concept of a supreme deity or being among the Colville, there seem to be quite a few lexical denominations for such an entity. This is especially apparent in the Interior Salish languages with the designation of Amoken/Amotken. There were also several ways of conceiving the nature of such a person, such as Old Man, or as Creator. The influence of Christianity of course may have colored the concept, but it is almost certainly indigenous as Teit (1900;1930) seems to have demonstrated. The questions that could be asked are How significant was this personage? and Was it a source of power or *sumih*?

One clue, however, may be in the association of Sweat Lodge, the presiding spirit of the sweat lodge, with the supreme deity or spirit. This concept is difficult for Europeans and Euroamericans to understand. Sweating was the most pronounced act of purification, of cleansing. Today it is still the act during which the individual organizes his thoughts and cleanses his spirit while in intimate association or "fellowship" with his closest friends and relatives. One washes his body even *before* entering the sweat lodge by bathing with cold water. All of this, perhaps, gives some reason to accept the apparent association of Sweat Lodge with a supreme generalized spirit. Also, in a harsh world full of physical discomfort, the sweat lodge was probably the one place a person could be fully comfortable and relaxed.

Yet, another reason to believe in the centrality of power rather than specific guardian spirits was the fact that a person frequently, perhaps usually, enjoyed the guidance and protection of more than one guardian spirit. In other words, a single spirit would not be the main focus of attention so much as the power that a spirit gave. A person might also have more than one vision quest in his life. Among the Nez Perce, an individual might experience a "call" to go and meet a spirit (Elmer Paul: personal communication) causing the person to go off alone for perhaps several days to have the encounter.

The quest of guardian spirits could apparently take many forms. In one common form, the individual, particularly a youth in his first quest, might go to the top of a mountain and stack rocks. This custom would explain, in part at least, the cairns found in the Colville territory atop White Mountain in the Kettle Range. Oral traditions concerning these rites varied widely, as detailed in the "Native American Religious and Cultural Practices" section of the *Oral Traditions Overview*.

There is another mountain reported to have similar cairns which is located just east of Chewelah which could be in the Chewelah ethnographic area. These features could, however, be associated with Amotken who was associated with mountain tops. It seems, however, that relatively few mountains have these features, and even the ones that do would indicate spirit quests of this type by only an infinitesimal fraction of the aboriginal population through the centuries. This fact makes one wonder if this practice has much antiquity. An analogous trait of piling pebbles or contributing pebbles to piles of the same at sacred spots or locations having power, and on mountain passes (Teit 1930), is interesting because it may have great antiquity and Asiatic parallels.

The Native American religion may still survive. Only a few years ago, an active shrine or power site was found near the town of Republic. At this place coins, flowers, feathers, and other objects were reportedly found next to a rock.

Several lakes seem to have been common locations for spirit quest among the Okanogan and, therefore, one should treat all small lakes with caution for this reason. Whether or not there would be any traces of religious activity at these locations is difficult to predict, but pictographs would be a definite suggestion. They are known to exist in profusion around Christina Lake (Nichelam) in Colville territory. Pictographs were, according to the most reliable explanation (Teit 1930), depictions of dreams associated with dealings with guardian spirits. They were in some sense an authentication of one's having communicated with a spirit. Therefore, the pictographs at Christina Lake and those in the cliffs above Kettle Falls, are most likely indications of spiritual communion and thus are religious shrines of the first order. This fact has been much obscured by all of the popular notions, taken by some anthropologists, that they represent crude attempts at art, communication, or even sympathetic magic. In all probability, they are much more than these. That they follow rules of diffusion and stylistic distribution, that they are not particularly idiosyncratic, and that they are frequently representative of no animal or plant known in nature, reinforces this interpretation.

Shamanistic practices will not be discussed except to note that it is essentially an application of *sumih*. There was apparently at least three types: malevolent witchcraft, curing practices, and specialized knowledge and control of the environment and resources. The third type was concerned with making it rain, making the fish ascend the falls, making deer or mountain sheep walk toward an ambush, etc. Oddly enough, people who possessed powers of the third kind, of making a species of animal or fish go to its death at the hands of man, derived their power from that very animal or fish.

Travel

By one account (Teit 1930) the Colville did not travel very much, at least for purposes of trading, because people went to them instead. There is no particular reason to doubt this assumption, except that it is perhaps a little sweeping. That the Colville had to travel in their subsistence quest is certain. The most thoroughly authenticated direction in which they went for this activity was to the Cusick area on the Pend Oreille River where each spring many Colville gathered camas with the Kalispel and Spokane. The route most commonly taken was probably the Kalispel Trail which crossed the mountains east of Chewelah (Ayers et al. 1979). That was the route apparently taken frequently by the fur traders, who would have been likely to follow the most used route.

There were other routes to Cusick which could have been taken some of the time so that the people could arrive in the Pend Oreille valley with meat, since they would not very likely go over to eat just camas. It is not known how much dried camas could be carried back from Cusick on peoples' backs; probably under a hundred pounds per adult on average is a good estimate.

Oral history sources have indicated several possible trail routes from the Colville area to the Pend Oreille valley, although there seem to be varying opinions on which one was the major route (Libra I, A, 18-28; Bradley, Zigler, Young, Informal Interviews, Appendix A, Volume 2). One factor favoring the route crossing east of Chewelah was the short distance that had to be walked before the horse was known. There are several references in the literature to travel by water between Kettle Falls and Chewelah during the spring (when the camas was harvested).

People from the Kettle Falls area probably went up the Colville River by canoes, left them at Chewelah, and returned that way with their camas. If this route were followed, it would mean that the roots would have been carried just across the mountains and not down the Colville River.

There are also some references to travel by Colville and Lakes along the Columbia River in canoes, both above and below the falls. In fact, river travel was far more common than people generally believed, and, before the horse, it must have been extremely common. Portaging over the bad spots in the river would have been relatively easy with the bark canoes in common use since some of them were light enough to be carried by a single man. It has even been pointed out that dugouts were uncommon before the arrival of steel axes, and that bipointed rafts were rather common, both ones made of poles and those made of reeds.

That the peoples using Kettle Falls were masters of river navigation and were quite fearless in that respect is amply attested to by the very dense occupation middens found on Hayes Island in the falls, and even by twentieth century photographs of skiffs beached on bedrock between the two main sets of falls, an extremely hazardous location.

Women were very skilled in canoe navigation, as attested to by Joseph Joset, who maintained that, among the Lakes, the women usually took the rear positions in the canoes, theoretically so they could watch the children while they paddled. Even as late as mid-nineteenth century, the Lakes would descend upon Kettle Falls in a fleet of thirty or so canoes for the fishing season. They would, of course, have come from many locations up the river.

Since there is evidence to suggest that the Colville also gathered roots out on the Columbia Plateau to the south of the mouth of the Spokane River, it is wondered how they got there and in what numbers. It seems probable that this practice would have been much easier after the horse was secured, though the Colville were never noted for having large numbers of horses. Before horses were available, it seems likely that these root grounds would have been reached by going down the Columbia River.

There was also a travel route that ascended Sherman Creek and went over the Kettle Range at or near Sherman Pass. DeSmet may have followed this route on one of his missionary journeys. Since, by some accounts, Sherman Creek went by the aboriginal name of the San Poil Creek, one would perhaps infer that it was by this route that the Sanpoil commonly journeyed to Kettle Falls. If so, there must certainly be archaeological sites associated with this route since it would not be possible to go in one day from one valley to the other if a family were being moved or loads carried.

There must have been a very important route of travel connecting Kettle Falls with Okanogan Falls, which was another large fishery to the northwest. The Hudson's Bay Company trail that crossed the Kettle Range to Curlew and then went up the Kettle valley probably followed that trail. It seems that, as in the case of the main Kalispel trail, the route would have been along ridges rather than valley bottoms because of the problem with brush and boggy ground. Small parties probably stayed in open woods where there would be fewer chances of unpleasant surprises with grizzlies, wolves, or strange people.

Undoubtedly, there were many routes of travel for which we have no surviving evidence. Many of them can be inferred from the lay of the land and the locations of resources. The fact that the Kalispel Trail still shows in places and that aboriginal trails are still visible passing around the east side of Kettle Falls gives some hope that some of the larger trails can be located simply by a careful examination of the ground along likely ridges and passes. If these can be matched with archaeological assemblages, then there is some hope of learning the prehistory of travel.

Similarities and Differences With Other Native American Groups

The Colville were quite naturally more like those Native American groups adjacent to them than ones further away. Linguistically, they were closest to the Lakes with whom they also shared parts of the ceremonial cycle. There are a number of references to the Lakes being an offshoot of the Colville. If, for a moment, we think of the Lakes and the Colville as having been elements of a larger Native American unit, one named only by the fur traders like Alexander Kennedy (1823) as the Kettle Falls Indians, then an interesting regularity appears. Those Colville usually living south of Kettle Falls, the Sneelameen and possibly other groups, had the reputation of being the most

conservative when it came to dealings with Europeans and Euroamericans, and acceptance of Christianity. On the other hand, those who were differentiating themselves as Lakes were notably unconservative when it came to economics or Christianity. The Lakes were the most aggressive fur trappers and they embraced Catholicism much more readily than many other groups. Thus, the territory to the north was in effect the frontier of this larger group; a lack of conservatism is often associated with frontier peoples.

The question can then be posed whether the boundary aligned north-south between the Okanogan and the Flathead languages was reflected in any other cultural facts or differences at the time of first contact. At some point, of course, in the distant past there must have been other cultural differences commensurate with the linguistic ones for the language differentiation to have taken place. But by the early nineteenth century, the language differences were not so well mirrored in other cultural areas. For example, the lower Kalispel centered in Cusick were in many respects much more like the Colville than they were like their linguistic brethren, the Flathead of the Rocky Mountains. The same could be said of the Spokane. The upper Kalispel or Pend d'Oreille were very much like the Flathead in respect to buffalo-hunting orientation. It is probable that the introduction of the horse accounts for some of this difference.

In most essentials, it is fairly safe to state that the culture of the Interior Salish was quite uniform all the way from the lower Thompson River to the Rockies of Montana. In terms of worldwide human cultures, the differences between these groups were not very significant. It would seem reasonable to suppose that, prior to the coming of the horse and the intensive pursuit of buffalo by some Interior Salish groups, there was a gradient of cultural elaboration beginning in the northwest and extending southeast from the Thompson and Lillooet toward the Flathead.

Technology and Engineering

While the Colville shared most of the general Columbia Plateau technology known in the literature, they stand out as having been among the best primitive engineers in the Columbia Plateau. Several things point to such a conclusion. The basket traps suspended in the

falls must have required a great deal of skill in construction; they were not only put in precarious positions where they were hung from spars and cables, but they were frequently moved around, and up and down as the conditions of the water dictated. The raised houses of the Colville which depended for strength more on rigid construction than on the deep burial of posts, and their location on a windy promontory of the Takumakst site show much skill. As with weirs, the tripod principle was an important element in house construction. Since the Lakes to the north, with whom the Colville were intermarried, had mastered the construction of suspension bridges made from bark cables and wood slats (Elmendorf 1936), it is probably that this technique was also known to the Colville. And lastly, the construction of bark canoes called for much skill, although here again it may have been the Lakes who led the Colville in this field.

Resource Use

One frequently reads about standard seasonal rounds of Columbia Plateau peoples in the literature. Very often they refer to summer fishing and berry gathering, fall hunting, winter village habitation with emphasis on ceremonial life, and spring and summer root gathering. In fact, however, the cycles varied from one band to another within ethnolinguistic tribes. When cycles are taken from one group and applied to another, they may not be fully accurate because resources varied, access to the resources was variable, and events might transpire to cause alterations. And while it is true that there was some sharing of resources, the early nineteenth-century information indicates much more conflict between groups than is generally accepted by modern theorists. The tremendous depopulation, and the pacification effort of the fur traders of the North West and Hudson's Bay companies, undoubtedly made it possible for a more intensive sharing, particularly of root grounds, in the late nineteenth and early twentieth centuries.

Another reason one must be cautious about seasonal round data indiscriminantly applied to various groups is that there were several important resources available at a given time of year. The result was that decisions had to be constantly made about which ones would be harvested and by how many and which people. These decisions were necessary because resources which became available for harvest were often very far apart, meaning that they could not be possibly harvested

simultaneously by the same group of people. Unfortunately, we have very little information about how these decisions were made and what the character actually was of the social groups harvesting the resources. The dynamics of aboriginal Columbia Plateau cultures are largely lost to us, and the best we can do is attempt a reconstruction and speculate.

Most of the food resources, except for mammals, were available for harvest in just the warm half of the year. This circumstance was especially true of the Colville, who lived far enough up the Columbia River that most of the fish they harvested passed by only in the summer; there were no significant spring and fall fish runs as there were lower on the Columbia, nor was there apparently much of a winter steelhead resource, as there was for the Nez Perce.

Since the Colville, or a portion of them at any rate, controlled the Kettle Falls salmon fishery, and because that control had to be maintained and not abandoned, there was a problem of how to secure an adequate root (especially camas) harvest which became ripe in the early part of the fishing season. Apparently this dilemma was partly solved by regulation of the fishery by the salmon chief so that fishing was simply prevented for a time. One source, apparently written in June (McDonald 1841), illustrates some of the problems and solutions:

There is no want of salmon now at the falls, and had the lazy hounds, offered such a blessing, been only half so industrious as they ought they might have laid up a good standby before the time they say their Creek will allow them to commence. Instead of showing any energy of the kind, the idle drones are off with the forelorn hope, the women, to see them dig up roots. The Bay [Lake Pend d'Oreille area] is I believe the great field for their harvest at present. Our "Salmon Chief" has located himself in the mountains to the north of us, masticating deer's meat to his heart's content, and sends words from time to time to his less fortunate dupes, on no account to go near the falls, or trespass on the established law until it be his will and pleasure to say the thing is very good. Two or three however, have shown sense enough to break through the law, and by means of the dart furnish their own starving families and us with a fish occasionally. I think the wife is about sending you a piece of the last that came in...And this is the God-send the silly creatures are so scrupulous about touching in what they call "out of season."

This quote by a somewhat unsympathetic fur trader shows the strong regulation of the fish resource, far stronger than one would infer from reference to most ethnographic works, particularly recent ones, but it compares well with David Thompson's (Glover) notes of strong structures regarding the fishery and also with Kane's (1925) observations in 1847. The "law" against taking fish "out of season" may have been partly a result of a strategy to exploit competing resources, partly a means of exerting control over a previous resource, and partly a conservation measure, a means of allowing fish for the Lakes upstream, and also partly things we do not recognize for lack of adequate information.

The two or three people breaking the law may have demonstrated inadequate enforcement powers, but they may, unbeknownst to Archibald, have been monitoring the run for the Salmon Chief who was apparently in touch with what was transpiring at the falls. Further on in the letter, it is evident that these "violators" were obviously monitoring the level of the water, waiting for the point when the water dropped enough for the first basket trap to be put in place.

Usually toward the end of June or in the first week of July, the fishing would begin in earnest, depending upon various factors. But it was not until about mid-August that members of other Native American groups began to make their appearance at the falls in significant numbers. The Kettle Falls fishery was far from being an intertribal "task group" effort (Anastasio 1955); the Colville and some of the Lakes had the apparently almost exclusive use of the resource through the most productive five or six weeks of the season. By that time, the visitors such as the Sanpoil, Okanogan, and Spokane had already put in much time on their own fisheries. We do know that besides the Colville and Lakes, the Okanogan and the Kalispel also definitely fished at Kettle Falls, at least late in the last century. What we do not know is how much they fished there. Like much else, the degree to which they fished probably depended on factors that changed from year to year, and upon the amount of tension existing between groups.

During August, while the fishery was still active and while the trading and gambling at the falls were at their height (Heron and Kittson 1831), important berry crops would be ready for picking, such as the serviceberry, huckleberry, and chokecherry which had come on earlier. Many of the best places to gather these would not be within a day's roundtrip walk of Kettle Falls. In September and October, a fall hunt would be made by the Colville, now dispersed for the purpose,

and apparently broken down into minimum-band units. At least one source (Mark 1931) indicates another root harvest at this time somewhere "inland", but the species being harvested are unknown. Camas and tiger lily and probably other roots could be harvested at this time (Turner et al. 1980).

Hunting

Large game was scarce in Colville territory during the last century, and the Colville had the reputation of doing little hunting. This scarcity may have been partly a result of increased hunting pressure during the fur trade, but it was more likely something that had been true for a long time because of the extra heavy population concentration in the Kettle Falls area, caused by the relatively abundant fish resource. Archaeological sites at Kettle Falls have little mammal bone in them, even in very ancient deposits. However, sites in the China Bend area between twenty and thirty miles up the Columbia River from Kettle Falls have much more mammal bone, suggesting that hunting was much better closer to the Canadian border.

Specific references to large mammal hunting in the last century suggest a pattern of hunting to the north of Kettle Falls, as far north as the Arrow Lakes for the Colville as well as the Lakes. Even before the establishment of Fort Colville in 1825, it would appear that furs in this general area were primarily derived from areas to the north of Kettle Falls (F. McDonald and Birnie 1823). References to hunting methods are rare, but one may presume that drives and surrounds were used for deer. There is direct evidence that dogs were used by the Colville in hunting large game. There is no direct reference to the hunting in the last century of mountain caribou or elk in Colville territory as defined here though the former were taken around the Arrow Lakes. There is also no reference to moose or bison. The Colville did participate to a limited extent in the Salish hunting parties that pursued bison on the Great Plains, but the earliest references are no earlier than mid-century.

In the Hudson's Bay Company fiscal year of 1830, the Colville traded the following pelts at Fort Colville, which would have been the only fur trading post receiving their furs:

Large beaver	64	Lynx	18
Small beaver	29	Marten	27
Black bear	18	Mink	14
Brown bear	26	Muskrat	419
Fisher	31	Otter	9
Red Fox	16	Grizzly	4
Cross Fox	1	Wolf	7

(Heron and Kittson 1831).

They traded in that year more brown bear, fisher, red fox, mink, muskrat, and wolf than the Lakes to the north. The Colville traded more of every category except mink when compared with the Spokane tribe which was then focusing virtually all of its trade on Fort Colville. The only other tribe we can safely compare this way is the Kalispel, who traded only more beaver, mink, and muskrat than the Colville, but less in every other category. The overall conclusion is that at this time the Colville were not doing too badly with respect to many species, but not terribly well when it came to the most valuable source of income, the beaver. If we take the lack of Sanpoil trade in pelts in this year into account, and the very poor showing of the Spokane, then it seems reasonable to suspect that a significant portion of the Colville pelts had been obtained in the opposite direction, namely to the north, possibly to some extent in territory normally assigned to the Lakes.

When we turn to hides of deer and other ungulates, the surprising fact is that at this time, and generally during the early part of the last century, the Colville were buying hides from Fort Colville rather than the reverse. This fact very clearly shows that the Colville territory was producing an insufficient number of deer around 1830, especially since we also know that the Colville were noted for being poorly clothed. One suspects that there were few deer to be had within twenty-five miles of Kettle Falls and few to the south around the year 1830.

Fishing

The primary anadromous fishery of the Colville was, of course, at Kettle Falls; Chance previous estimations stated that about 1,960,000 pounds of raw, unprocessed, anadromous fish were caught in an average year at Kettle Falls in the eighteenth century (Chance et al. 1977:13). This estimate may be excessive, and we have not had the opportunity to revise the figure. Other anadromous fisheries were in a three-mile spawning ground, at the Grand or Thompson rapids below the mouth of the Colville River and on the Kettle River.

Anadromous fish were apparently taken all along the Columbia in Colville territory, especially toward the end of the summer fishing season. A fall fishery of nonanadromous fish is known for Christina Lake and sturgeon were a significant resource just below Kettle Falls (Ray 1932). Archaeological evidence suggests that a few anadromous and other fish were taken on the Columbia River for thirty miles above Kettle Falls. The salmon did run all of the way to the headwaters of the Columbia River in the vicinity of Lake Windermere. Salmon runs did exist in the lower Pend Oreille and Kootenay Rivers but these may have been monopolized by the Lakes. Archaeological sites on Curlew Lake imply the presence of nonanadromous fisheries on that body of water.

Most of the fish caught at Kettle Falls were taken in the large J-shaped basket traps suspended in the lower falls. But spears were also used, ones with detachable toggling heads and also leisters. The best evidence indicates that dip nets were either used very little or not at all. Away from the falls, fish were apparently taken, to judge from evidence of adjacent tribes, by spearing them from platforms and boats, and with weirs constructed in tributaries or between islands and bars of the Columbia and the shore (Ray 1932). The use of such weirs in the main river must be inferred from the locations of some archaeological sites and from our knowledge that such would have been practicable where the water was shallow enough.

Tom Hunt, an oral history informant, lived on the Colville Reservation from 1918 to 1922, and participated in a number of fishing expeditions. According to Hunt, spearing was the most common fishing practice. He also remembered night fishing journeys during which a fire basket was placed in the bow of the canoe (Hunt I,A,14-26).

Plant Gathering

If we take the Okanogan language speakers (among whom are the Colville) as a unit, we are blessed with one of the best ethnobotanical studies in the western part of the continent (Turner et al. 1980). Much of the data for this work was derived from Colville and Lakes consultants. About 260 species of the Euroamerican taxonomy of plants are known to have Okanogan-Colville names, while the number of plant names is much larger. About 463 are known, but some of them are generic, others refer to varieties not recognized to Linnaean botanical taxonomy, and some refer to introduced species.

About 130 plant species were used for medicine, but many if not most of these species had more than one medicinal use, so that the resulting pharmacopeia was quite large, that is larger than uninformed expectations. Much medicinal and botanical knowledge was specialized so that probably few Colville knew anywhere close to the full range of medicinal plants. "Indian doctors" specializing in healing were a part of the culture that still survives in attenuated form.

The 130 or so plant species that had economic significance were probably much better known to the average Colville since everyone was engaged in procuring a large proportion of the inventory. The gathering of food plants was largely the province of the women, and women figured importantly or pivotally in the first fruits ceremonies of the spring. There does not seem to be a clear fertility association, however, even though one might expect it.

We do not know what all of the chief food plant species were for the Colville specifically. Those that are known include camas, chokecherry, black tree lichen, service berries, hazelnuts, pine cambiums, arrow-leaf balsamroot, and tiger lily. A detailed study could be made that correlates the presently known ethnobotanical information with the flora of the Colville area. Bitterroot was not common in Colville territory, but was apparently harvested by them on the Columbia Plateau to the south. In obtaining a significant amount of their nutrition from hazelnuts, the Colville set themselves apart from most surrounding groups.

From the standpoint of nutrition, roots were by far the most important plant foods to the Colville. Turner, Bouchard, and Kennedy (1980) list some 23 significant species whose roots were used as foods. These represent five botanical families of which the *Liliaceae* were the most important, having 10 root food species, including the black camas and tiger lily. Next in importance were the *Umbelliferae* with eight species, the *Portulacaceae* with two, including bitterroot, the *Compositae* with two species, and the *Typhaceae* with one, the cattail.

Probably well over a fourth of Colville nutrition was derived from roots (D. McDonald 1927), but it is likely that, at least in the last century, perhaps one-half of the roots were obtained outside of the territory we have defined as primarily Colville. This statement is, of course, just speculation based on evidence of considerable root gathering outside of Colville territory. We simply do not know what the root resources of the Colville valley north of Addy were, but suspect that, prehistorically, it must have been very productive, especially of black camas.

Roots were generally obtained with the digging stick, but also with wooden spatulate instruments and probably hafted stone tools. They were placed in small baskets or carrying bags and then transferred to larger containers before processing. Cooking was essential to render many of the species palatable, and prolonged cooking was required to change the indigestible sugar of black camas to fructose (Turner et al. 1980).

Historica Period/Acculturation

The Colville came under direct European influence in about 1810 when they were visited by some of David Thompson's men. In 1825, Fort Colville was begun by the Hudson's Bay Company in the middle of Colville territory. The relations between the Colville and the fur traders were usually good and of a symbiotic nature.

The Colville came under religious influence from Catholic servants of the Hudson's Bay Company and from the Deist managerial element. Later, the American Board of Commissioners for Foreign Missions attempted to influence them, but many of the Colville preferred conversion to the Catholic faith. The Hudson's Bay Company managed to keep both Protestant and Catholic mission establishments well away from Kettle Falls until the international boundary settlement of 1846 made it possible for the Jesuits to establish St. Paul's Mission without regard to the preferences of the fur traders.

The Colville turned gradually to agriculture for a significant part of their subsistence between the 1830s and 1870s. By the 1870s, the Colville were even better gardeners, raising a wide variety of vegetables for sale to Euroamericans who were not as successful. By 1880, the Colville possessed log homes, barns, grainaries, livestock, and took their families to church on Sunday in their wagons. But much of this changed between 1880 and the turn of the century as the reservation policy was enforced and settlers and miners entered the country in great numbers, especially after 1883.

Relations with Euroamericans had never been terribly good. Tensions between the invading Euroamerican gold miners led to U.S. military intervention, and the establishment of the garrison of Harney Depot in 1859, subsequently renamed Fort Colville (note the change in spelling).

In 1871, the Hudson's Bay Company withdrew to Canada and several months after that, President Grant established a reservation for the Colville, Lakes, and several other tribes. Neither the Colville nor the Lakes had made any cession or sale of their lands before 1872. Since this first reservation included all of the Colville Valley, local Euroamericans, led by William Winans, succeeded in 1872 in having the reservation moved to the lands west of the Columbia River. This very large reservation was then cut in half during the 1890s; in 1896 the north half was opened to mineral entry, and then to homesteading in 1900. Indians resident in the north half had received 80-acre allotments.

Like several other groups such as the Spokane, Nez Perce, and the Kutenai, the Colville acculturated themselves to a nineteenth century agrarian Christian model, only to find that model invalidated in the late nineteenth century by the theft of lands and improvements and by various legal maneuvers of the invading populace and government. What had been an almost self-sufficient horticultural society became transformed into a dependent client society when the Colville were removed in the 1880s to lands that were difficult or impossible to farm.

THE SPOKAN

The Spokane, like the Colville, have never had the benefit of a prolonged and systematic ethnographic field study. The most extensive ethnographic work on them was by Teit (1930). In this study the Spokane were simply treated collectively with the other dialectical groups of the language they share, the Spokane-Kalispel-Flathead language, and they came up quite short as a result.

A brief acculturational study has been done by Roy (1961) which includes some general ethnographic data. Verne Ray's works on the neighboring Sanpoil and Nespelem (1932), on the villages and groupings of the Columbia Plateau (1936) on the Bluejay cult (1937), cultural relations of the Columbia Plateau (1939), and on cultural element distributions in the Columbia Plateau (1942) all contain data on the Spokane, but in association with materials on other ethnolinguistic tribes.

An ambitious ethnohistory of the Spokane, written by Ruby and Brown (1970), is packed with historical information; but unfortunately, this work contains errors, and considers aboriginal culture all too briefly and uncritically. Clifford Drury's (1940) work on Elkanah and Mary Walker, missionaries to the Spokane in the 1830s and 1840s, includes much material on the Spokane as does Drury's (1976) abbreviated edition of Elkanah Walkers' diary. But the only fully professional historical work on the area is Robert Burns' (1966) work on the Jesuits and the Indian wars of the Columbia Plateau.

Stuart Chalfant (1974b) and Angelo Anastasio (1974) produced works on the Spokane on either side of the Indian claims issue. In this writing, Chalfant especially, reviewed a great deal of data on the band designations and territorial occupancy with much care, but confusing organization. Anastasio's work was well written but too brief and biased toward his client.

Languages

The Spokane dialect is a part of the Spokane-Kalispel-Flathead language of the Interior Salish subfamily of languages. There seems to have been slightly less correspondence between Spokane dialect speakers and the Kalispel-Flathead dialect speakers than between the Kalispel and Flathead. Within the Spokane dialect, the lower Spokane group was slightly divergent from the groups upriver from it, but there was apparently no difficulty of communication. Spokane-Kalispel-Flathead was close enough to the dialects of the Okanogan language to

the west of it that communication was possible, even if not easy. Communication was apparently possible with Coeur d'Alene and with such Sahaptin language speakers as Nez Perce and Palus; for all of these people were found together in groups during the last century at root grounds, at fisheries, and on buffalo hunts on the Great Plains east of the Rockies.

We do not, however, know how these matters were solved. Chinook jargon was not much used in the northern Columbia Plateau. A sign language did exist, but there is little evidence of the use of sign language between Columbia Plateau groups. Even the Kutenai, with all their exposure to life on the Great Plains, were considered to be slow at sign language. Various ambiguities and seeming inaccuracies in the reporting of languages in the last century lead one to suspect that Spokane itself was something of a lingua franca in the north-eastern part of the Columbia Plateau (Kennedy 1823; Work 1829). Geographically, the Spokane were located at a sort of crossroads, a factor that probably influenced the location of Spokane House near the place of modern day Spokane by the North West Company in 1810.

Area Occupied

It is much more difficult to circumscribe Spokane territory than it is for the Colville. This problem is partly because there were almost no mountain ridge divides between the Spokane and their neighbors, the Sanpoil, Colville, Chewelah, Kalispel, Coeur d'Alene, Nez Perce, Palus, and Moses Columbia, to list them in clockwise fashion. Most authorities would place the northern "boundary" from about Hunters on the Columbia eastwards to Valley, Camden, Mt. Spokane, and then southeast to about Post Falls, Idaho. From the last point, one would trace a line southwest to Rockford, then to Rosalia, and then shift westward to Colville Lake, thence north to the mouth of Hawk Creek on the Columbia.

The east bank of the Columbia between Hawk Creek and Hunters is an ambiguous area because of vague accounts of an Okanogan dialectical group reported in that area, but it may well be true that the Spokane spent some time on the banks of the Columbia River itself. Their presence at the mouth of the Spokane River in the first quarter of the last century can be documented. The southern "boundary" traced above has been a matter of much debate, especially with respect to the Indian Claims Commission proceedings. The U.S. government, in its mistaken desire to look for exclusive occupancy,

took the position that the Spokan had very little such occupancy south of the immediate vicinity of the Spokane River. But if we take the criterion of predominant occupancy as our guide, then it is quite reasonable to draw a line, as has been done, about halfway between the winter villages along the Spokane River and those of the Sahaptins along the Snake. In drawing this line, we follow most authorities.

The problem is much confused by the fact that transportation became vastly easier for the Spokan, the Coeur d'Alene, and the Sahaptins to the south, with the advent of the horse in the eighteenth century. Before that time, the comingling of Native American groups on the Columbia Plateau south of the Spokane River would have been much rarer than it came to be noticed in the last century. A family could probably not move more than about 10 or 12 miles in a day, and long linear distances would not be traversed in search of roots and game if these commodities had to be packed on the backs of people all the way back to settlements on the Spokane River. Even in the early part of the last century, the Spokan spent most of the year on or near the Spokane River (Kennedy 1823), and the majority never went after buffalo. All of this information adds up to the conclusion that Sahaptin groups would probably have been only rarely met north of the Rosalia to Sprague line before horses became common.

The other factor to keep in mind is that the level of hostility between groups was definitely higher before the pacification efforts of the fur traders (Chance 1973). Alexander Kennedy (1823) reported from Spokane House that the Indians of his district were "often at war" with each other even though they spoke "one language". There is evidence of Spokan-Coeur d'Alene conflict shortly before the opening of the fur trade circa 1810, and very explicit evidence of Coeur d'Alene-Kalispel conflict afterwards, which was resolved by the fur traders in 1823. There are also hints of Spokan-Nez Perce conflict or tension in the first decade or two of the last century (Cox 1957). And there was early nineteenth century Spokan-Okanogan conflict (Spier 1938:79). In 1829, the Spokan, Coeur d'Alene, and Nez Perce fought a battle with the Colville in which there were six or seven casualties, including some killed (Dease 1829).

It would not have required a very high level of conflict or tension to make it a risky business for parties, especially small ones, to venture out too far on the Columbia Plateau. This is because the intentions of aliens one met would not be sufficiently predictable, even if overt hostility was not automatically expected. But "hereditary enemies" were not so much a feature of the early historic Columbia Plateau as were short-term feuds. Most conflict in the northern Columbia Plateau was between speakers of different languages, not between speakers of dialects of the same language.

Population

There are many estimates of Spokane population in the sources. A Hudson's Bay Company estimate of 1830 (Work 1830), certain to be not very far from reality, gave a total of 704 individuals with the three major groupings tallying as follows:

Sintatoluh (eastern group)	181
Sinohomenish (central group)	286
Scaite Cuthinish (western group)	237

The significance of these groups will be explained in the next section.

A U.S. government census of 1870, conducted on the ground by Henry Shuttleworth, gave a collective total of 716 for the Spokane. There is some reason to believe that a little before 1830 the number may have been somewhat less than 704, and that after 1870 the population may have shown a slight increase. But in general, it could be said that the Spokane population was remarkably stable during the last century until the rapid influx of Euroamericans around 1880 brought about a rapid destruction of the Spokane way of life and most likely caused a slump in population with the great increase of tuberculosis after 1880.

There were earlier epidemic problems, one that can be directly documented is the smallpox epidemic of 1853. This would suggest that the Spokane must have had a respectable rate of reproduction to keep up with the losses. However, the adult/child ratio of 1830 is given as 1.92 (Chance 1973) which argues either for a very long average lifespan or for a gross inaccuracy in counting children. Perhaps infants were not counted by the fur traders, that is children under five. This is not an unreasonable hypothesis at a time when people hardly dared expect that a child under five would live to be an adult.

The adult/child ratio calculated from the 1870 returns is a much more logical 0.95, and here the Spokane show a higher reproductive rate than any other northern Columbia Plateau group except for the Methow, for whom the figures are not nearly so reliable. Possible acculturational factors will not be speculated upon that might be accountable for this favorable ratio, except to note that the Spokane in 1870 had the lowest proportion of boys to girls (0.98) of any northern Columbia Plateau group, a factor conducive to reproductive success. In 1830, they had not been noticeably divergent from other groups.

There is also the fact that the Spokane took up horticulture with some success as early as the 1830s. Caution must be exercised with these statistics, but they cannot be ignored since they are all we have.

Social Organization

The most basic problem to understanding the social structure of the Spokane is one that we would not normally include under the heading of social structure. This concerns the locations, nomenclature, and number of Spokane macro-bands. More has been written on this aspect of aboriginal Spokane culture than on any other question. Most of this, much of which has been controversial, has centered over what were the Lower, Middle, and Upper Spokane, where they were, and what they were called.

The best way around the problem is to ignore the terms Lower, Middle, and Upper, and to speak more specifically in terms of location on the Spokane River and in respect to the band nomenclature. Chalfant's (1974b) resolution of the problem is more or less accurate, but it can be improved by reference to recent work by Bouchard and Kennedy (1979) and by using the fur trade data (Work 1830).

Essentially, the Spokane groups breakdown is as follows. Focused on the eastern Spokane River, Latah Creek, and Spokane Falls were the Sintatoluh, historically the smallest of the divisions. Focused on the junction of the Spokane and Little Spokane Rivers were the Sinohominish, the largest of the groups, and the one with which Spokane Garry was associated. The fact that Spokane Garry was selected for schooling by the Hudson's Bay Company is perhaps suggestive that the Sinohominish were politically dominant among the Spokane in the 1820s, an opinion held by several authorities. The third major division was that of the Scaitecutthinish focused from Little Falls to Detillion, as well as at Tsimikaine, and with whom we can associate the chiefs, Cornelius Big Head, Lot, and Whistlepossum, among others. This group is usually referred to as Lower Spokane, and it appears to have been politically dominant in the 1830s and 1840s.

A fourth group, sometimes labeled as Spokane and occasionally referred to as Lower Spokane, was one of Okanogan language speakers living about the mouth of the Spokane River. They appear to have been concentrated on the west bank of the Columbia River opposite the mouth, and north to the vicinity of Hunters. These people are called Sinekalt

by Ray (1932, 1936) and Sinkilt or Sinkiltish by Bouchard and Kennedy (1979). These ethnographers and others observed that these people were linguistically related to the Colville or Sanpoil, or intermediate to both. However, they were also apparently intermarried with the Western Spokane to an extent sufficient to result in the ambiguity we witness. There was ceremonial linkage between the Spokane and the people at the mouth of the river as witnessed in the remark of January 11, 1823, that "The Indians of this place (Spokane House) have gone down to the forks (mouth of Spokane River) to dance and gamble with their neighbors" (F. McDonald and Birnie 1823).

The level or cohesion of social organization is often reflected in the character of political control exerted by leadership, the chieftainship in the present instance. Opinions have differed considerably over the extent to which the Spokane were politically organized as one unit, that is as a political tribe. Chalfant (1974b) has taken the view that the chiefs of the three major sections of the Spokane were more or less autonomous, that there was no supreme chief of all of the Spokane. Anastasio (1974) has made the distinction between power directed externally, that is toward other groups--or Euroamericans, and that maintained within the ethnolinguistic tribe of Spokane. For him there was an overall chieftainship directed toward outsiders, whereas within the Spokane there was little central authority. Contrary to Chalfant's view, it seems that the Spokane acted collectively during the Cayuse War crisis of 1848 though not under the authority of one man. In other words, there was apparently a consciousness of collectivity and common purpose at times, but not under the direction of one person.

The fur trade sources are somewhat ambiguous but revealing in internal evidence. During a difficulty that arose over the Hudson's Bay Company fishing weir at Spokane House in 1822, James Birnie referred to the local chief, by some later accounts the dominant chief of the Spokane, as only "the chief of the place" indicating a localized authority (F. McDonald and Birnie 1823). Further, during the altercation, the enraged chief went and broke down some of the palisades of the Hudson's Bay Company garden rather than delegating others to do it, a rather risky move, it would seem, by one in authority. The chief was driven away by his own brother who was "more attached" to the Euroamericans. The chief then tried to go to the fort to continue the dispute but was prevented from doing so by his own people. The Euroamericans loaded their cannon, but an Indian defused the situation by saying that only the chief was displeased.

Every known aspect of this incident suggests that the chief of the place of Spokane had little authority. One could argue, of course, that his powers had been severely eroded by the presence on his very doorstep of a fort full of Europeans with cannon, grenades, and rockets. Later, after relations had been smoothed over, Alexander Kennedy made a present to "the Chief of this place" of a blanket, capot, and red silk handkerchief (F. McDonald and Birnie 1823). However, in the very same journal there are references to the "Chief of the Spokans" and "the Spokan Chief," but unfortunately there is no way, from the evidence at hand, to tell if this is the same man who became angry over the fish weir incident. It is certain, however, that the individual referred to as "the Spokan Chief" resided in the village adjacent to Spokane House, making it reasonable to think that he and the chief who became angry in August were one and the same person.

In that winter village of Spokan there were 60 families with three chiefs receiving annuities from the Hudson's Bay Company in 1812. Possibly two of these chiefs may actually have been chiefs of bands that gathered at Spokane House in the winter of 1822/23, since Kennedy (1823) speaks of the village of 60 families there as if it were something unusual. Work (1829) reported that most winter settlements in the Spokane/Colville District were considerably smaller in size than 60 families.

In February of 1823, Indians arrived at Spokane House "from below" to dance with those living near the fort. A large lodge for dancing had already been erected in the first week of December. The visitors from the western group were described as comprising three chiefs, 50 men, and 10 women (F. McDonald and Birnie 1823). Obviously many had stayed home. This reference, like a number of others, is interesting because it clearly distinguishes between chiefs and ordinary men rather than presenting the ambiguous picture known in later literature of a multitude of chiefs indistinctly separated from the whole.

On the other hand, the last reference suggests that a chief might be the leader of a rather small group of people. In the literature on the Spokan, there is no clear evidence of the inheritance of the office as there is among the Colville. There is even some contrary evidence in the person of Cornelius Big Head who had the reputation of having simply come to chieftdom by force of character and cunning. There is no contemporary evidence for subsistence governors similar to that for the institution of Salmon Chief at Kettle Falls, even though many suspect that such existed. The wide dispersal of Spokan fisheries, however, would not permit the development of an institution parallel to that of the Colville.

After observing the Spokan at very close quarters for several months, Alexander Kennedy (1823) stated that each winter village had "an old man or two who assumes the Name of Chief or Chiefs, and who pretend to regulate the conduct of the community, but who in fact have very little command over them." There is no reference in this context to a tribal chief. Teit's (1930:378) data collected early in our century were not much different. He wrote that each division of the Spokan tribe had a chief and some small chiefs. Long ago, he continued, there was no head chief although according to some, the chief of the upper (he means central) Spokan was considered the leading chief of the three divisions. After buffalo hunting started, this chief was recognized as the head. Since apparently only a minority of the Spokan ever indulged in buffalo hunting at a given time, it would seem that his statement is somewhat vitiated.

There is very little data on kinship specific to the Spokan, but the general picture appears to have been one of bilateral residence (Roy 1961; Jorgensen 1969). Roy claims that settlements were not organized with reference to kinship though this would seem to be an overstatement, for kinship would be just as important to the internal functioning of the minimum-band as Roy recognizes it was externally. By the latter he means that the bilateral (residence with and descent through either the husband or wife) kinship organization made for the widest possible set of linkages, providing for maximum access to resources. One would think that there would also be clear advantages in harvesting resources and in caring for the young and elderly in the company of one's kin as well.

Teit (1930:380) states that the Spokan had a number of slaves, some of whom were war captives, while others were procured in trade from the south. Other information on this subject is lacking, but it would seem safe to say that slaves were not numerous in any Columbia Plateau societies. Such a situation would argue for relatively benevolent treatment of slaves. Some Columbia Plateau societies like the Cayuse used slaves to fill out their ranks.

Settlement Pattern

As with the Colville, the Spokan seem to have often formed their largest settlements during the summer at the fisheries along their river. Kennedy (1823) reported that after the camas harvest in June, the Spokan came together to form villages at the fisheries. In winter they lived in "little societies" or "villages" which were formed near where they lay up their stocks of salmon. John Work (1829) contrasted the large bodies of people at the fishing and root grounds of the summer to a dispersal in winter to one- or two-house settlements

having one or two families to each house, even though larger villages were known. This, of course, is not at all in agreement with twentieth century ethnography which has emphasized the winter village as the largest settlement in the yearly round.

Camps of Spokane at the root grounds out on the Columbia Plateau were often very large. One meets with references to up to 200 in a single locality, not to mention members of other ethnolinguistic tribes. It remains to be seen if regular patterns of seasonal settlement size can be worked out for the Spokane. Teit (1930) states that at one place on the Spokane River there were often six lodges. At other times there were no lodges and at others there were as many as 12. To help tackle this sort of anomaly, we may have to develop a concept of neighborhoods--dispersed villages of scattered hamlets, but more regular in overall membership than the individual hamlets.

Ray (1936) lists 29 named Spokane sites, all along the Columbia, Spokane, and the Little Spokane and Latah Creek (Figure 6). A dozen or so Spokane places are also listed by Bouchard and Kennedy (1979). It would seem that there is little likelihood of there being locations that were predominantly Spokane on Forest Service lands, but there may be many BLM properties of former significance to the Spokane. Those can be found only through various kinds of fieldwork. There is obviously a great need for ethnogeographical research on the Spokane before it is too late. It is, of course, too late to secure most such knowledge, but Bouchard and Kennedy (1979) have shown that a surprising amount still can be turned up if one is willing to take the trouble.

Housing

Mat lodges, generally of the double-apsidal shape seem to have been the most common house form of the Spokane in the last century. The hide tipi, followed by the canvas tipi, was a late addition, coming well after mid-century. Pit house sites are common along the Spokane River, except in the lowest 20 miles of the river. That fact is undoubtedly very significant, suggesting ethnic differentiation prior to the eighteenth century.

Religion

Most of the meager information we have on Spokane religion must be derived from Teit's (1930) remarks on Spokane-Kalispel-Flathead religion. It is apparent that in collecting this data Teit was probably taking his information mainly from Kalispel and, more

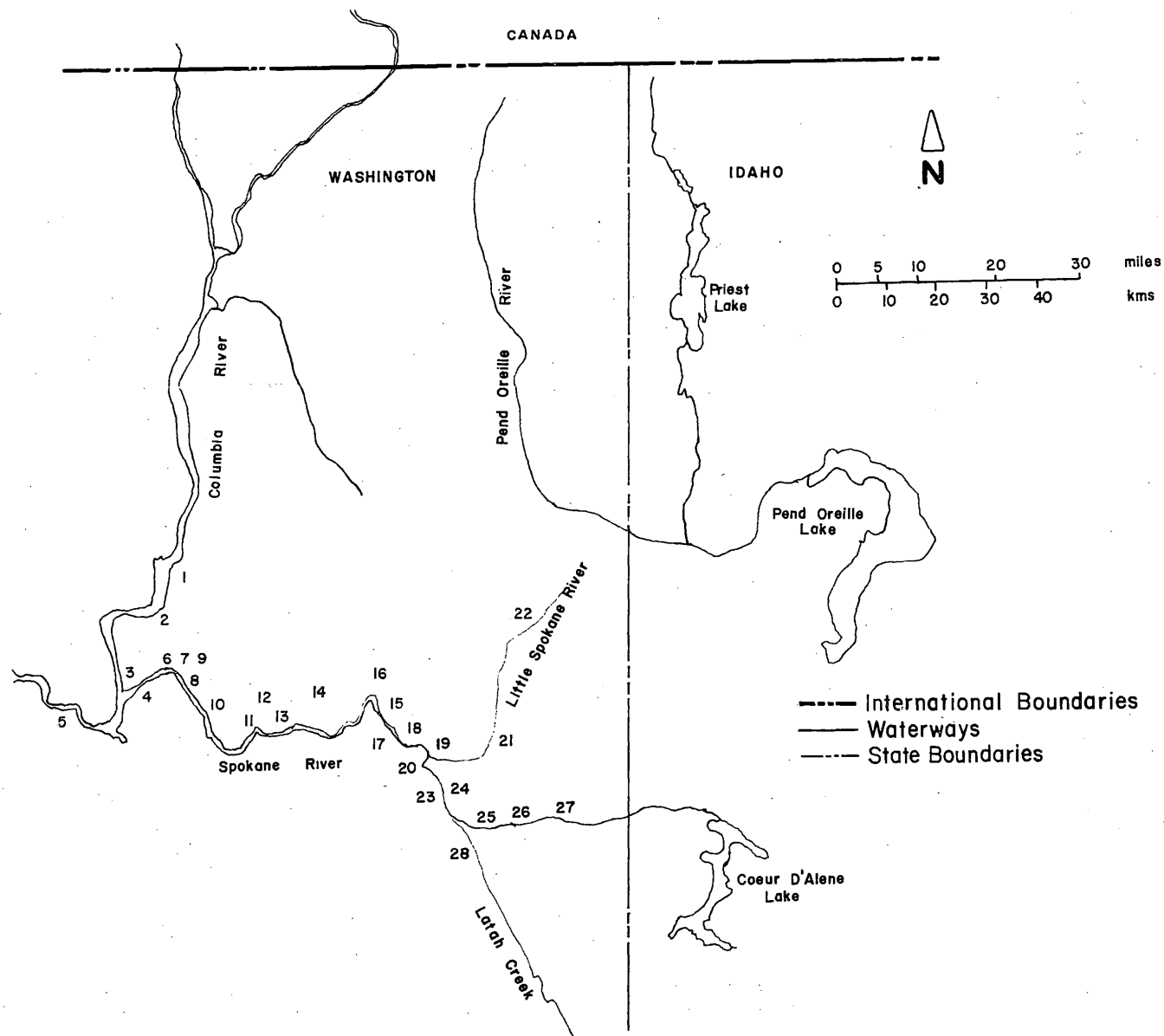


Figure 6. General site locations for the Spokane (after Ray 1936)

especially, Flathead informants. These people had a notion of a supreme deity known as a great and good chief, the source of life, and called Amotken. There was also a bad chief of the nether world known as Amtep. The northern Columbia Plateau people did view human action in terms of the opposition of good and bad, and so extensively that it would seem safe to believe that this concept of good and bad was aboriginal.

The sun was addressed, according to Teit, as Chief, Father, or Great Mystery. This solar divinity, which seems to merge with the figure of Amotken, was a feature of all groups in the vicinity according to early fur trade sources. There was also a sun dance, but one distinct from the sun dance of the Great Plains Indians. At some point, the notion became widespread that the Spokane regarded themselves as the "children of the sun" and that the term Spokane had something to do with the term for sun (Ruby and Brown 1970:8). This probably derives from a misreading of some words of DeSmet: "They call themselves Children of the Sun, which in their language is Spokani" (Anastasio 1974). This is probably not linguistically correct, though they may well have said they were children of the sun, which would square with the solar veneration already mentioned.

Like the Colville, the Spokane had the tradition of winter Bluejay dances in which people, apparently men for the most part, became possessed with the Bluejay spirit. Persons so possessed would take off all or most of their clothing, perch on the ridgepole of the dance lodge and behave like bluejays, predict the location of stolen objects, identify the thieves, then sometimes run off into the night and cold wandering (Ray 1937; Eveline Flett: personal communication). This Bluejay cult is difficult for us to understand in terms of our everyday religious notions, for it was so drastic a ritual that it seems to have served the purpose of a major cathartic, being a sort of voluntary temporary insanity. From informants' accounts the Bluejay "dance" was still performed even in this century in the Spokane area. Unfortunately, there is not enough evidence to allow one to understand this cultural trait that lies beyond the explanatory powers of conventional rationality, but it remains one of the most awesome and interesting parts of this culture.

The guardian spirit complex of the Spokane cannot be readily differentiated from that of other groups. For the Spokane-Kalispel-Flathead group as a whole, Teit (1930) states:

At puberty, every one endeavored to obtain one or more of them [guardian spirits], and for this purpose went through a long course of training. Bathing in running water, fasting, praying, and keeping vigil in lonely places were prominent features. Everyone obtained one or more songs at puberty. Some were received directly from the guardian spirit, others were heard in dreams or visions.

Since the Coeur d'Alene and some other groups associated high mountain tops with Amotken and with the sun, it is quite possible that such peaks as Mt. Spokane may have had religious significance.

Travel and External Relations

The Spokane were probably much better traveled in the earlier part of the last century than the Colville. They frequently visited Kettle Falls to trade, and they probably frequented The Dalles.

A rather surprising reference occurs in a letter of Mary Walker (1848) where she wrote her husband to say that "about ten canoes of Spokans arrived the other day (at Oregon City)." In 1858, a large number of Spokane and Coeur d'Alene journeyed to Fort Benton on the Missouri to buy ammunition (Michael Ogden 1858). In 1871, William McKay (1871) noticed Spokane at the huckleberry fields on the western slopes of Mt. Adams. Such references are no doubt just a hint of the actual extent to which the Spokane traveled.

The Spokane were much less inclined to using canoes (Teit 1930) than many of their neighbors simply because the Spokane River was not very navigable. There is no doubt that they did have them, however, and we also know that it was possible for the fur traders at Spokane House to take bateaux down the river to its mouth, no doubt with several portages. The use of canoes may, of course, have declined with the availability of horses.

Francis Haines (Ruby and Brown 1970:25) has indicated that the mouth of the Little Spokane was one of the leading horse marts of the Pacific Northwest, though on what evidence one is uncertain. This location was, of course, very important for trade after the establishment of Spokane House there in 1810, and the traders may have selected the place because of an aboriginal trade focus there. Another factor would have been the availability of salmon from local weirs. But from the standpoint of fur trade communications, the location eventually proved extremely disadvantageous. It is suspected that if it had been that much of an aboriginal trading mart, that this would have been mentioned in the recorded deliberations of the men who chose to close the fort down in 1826.

According to Teit (1930:356) the Spokane resembled the Klickitat in that they were great carriers of goods from place to place rather than being sedentary traders. They traveled frequently to the mouth of the Snake River and almost annually to The Dalles. In "later years" the Spokane went by canoe to Fort Vancouver and some may have gone to California. At least one contemporary source (A. McDonald 1841) mentions Chief Cornelius' intention to go The Dalles for salmon and to trade horses in 1841.

Similarities and Differences with Other Groups

The linguistic similarities and differences have already been touched upon. As to other differences, a quotation from John Work (1830) is much to the point:

There is such a similarity of manners and customs throughout the [Colville] District notwithstanding the difference of language, that the differences may be considered to arise from the difference of situation.

If is difficult for us to know what all the differences arising from situations might be. By the time of that writing, the Spokane country was considered by the fur traders to have been trapped out, and the Spokane to be a relatively poor people compared to some other ethno-linguistic groups. Extensive salmon fisheries did set them apart from the other dialectical groups of their language, and also from the Coeur d'Alene. The latter, however, did share in the fishery at Spokane Falls and reciprocated with their nonanadromous fishery at the mouth of Lake Coeur d'Alene. With respect to dress, technology, religion, political and social organization, and settlement pattern, the Spokane did not differ very much from their close neighbors. This was partly because the sharing of some resources brought them together and because warfare was not frequent or serious enough as a rule to make for the development of much cultural divergence in a small geographical area.

Resource Use

Hunting

On hunting there is little information specific to the Spokane except that large "surrounds" were apparently common for the procurement of large game on the Columbia Plateau before the horse. One suspects that

the Columbia Plateau, especially its wetter eastern portion, may have at one time been rich in large game such as antelope, elk, and possibly bison. It is probable from nineteenth century testimony that firearms and the horse caused a substantial decline in big game in this area (Chance 1973).

One of the weakest links in Columbia Plateau ethnography is the lack of much knowledge of how the open spaces of the Columbia Plateau were actually used. This question will have to be solved by systematic study of the historic data coupled with careful archaeology. Deer were scarce to form any material part of the food of the Native Americans (Kennedy 1823). The situation thus paralleled that of the Colville. Lack of adequate clothing (Kennedy 1823) might likely have made the Spokan even more sedentary in winter than they may have once been.

There does not appear to be much evidence for buffalo hunting on the Great Plains by the Spokan in the early nineteenth century. In the 1823 post journal of Spokane House there is no reference to this. In November of 1823, there were only 12 Spokan "men and lads" at the Flathead Rendezvous in Montana (Ross 1825), which may represent the sum total of Spokan males hunting buffalo that year. It seems that this practice may have increased with the passage of time after that. This conclusion is reinforced very significantly by Kennedy's (1823) statement that the occasional buffalo robe to be seen among the Spokan had been traded from the Flathead Indians. Most Spokan robes at this time were woven muskrat skin blankets. The evidence now seems to favor the conclusion that buffalo hunting by Columbia Plateau tribes east of the Flathead and Kutenai was not stimulated so much by the horse as much as by later events associated with the fur trade.

Duncan McDonald (1927) testified to buffalo hunting by combined Spokan and Colville parties in a way to suggest that they did this mostly in the 1850s and 1860s. According to Duncan, they would usually leave for the Great Plains in the fall and spend the winter there. These Spokan/Colville parties usually consisted of about 50 families. They took dried salmon with them to trade and returned with buffalo meat and hides and roots. Wealthy families might return with 18 to 20 loads of about 200 pounds each. A poorer family brought back three to 10 loads. One would have to say that Duncan's reference to parties consisting of Spokan and Colville to the exclusion of other tribes is most unusual and may have been influenced by the litigation for which he was providing testimony.

The Spokane came within the orbit of the direct fur trade in 1810 when North West Company men, Finan McDonald and Jaco Finlay, began a post at the mouth of the Little Spokane River. The reasons for establishing a post there are not clear, but it was often fur trade practice to locate posts at points already having concentrations of Indians; the reason being that most pelts were purchased from the Indians rather than being trapped by the Europeans and Euroamericans themselves. There was also the necessity of establishing posts near Indians who could defend the traders since it was impossible for the latter to provide themselves with adequate fortifications.

In 1812, the Pacific Fur Company built a rival post at the same place, but this competition did not last beyond 1814 when this concern was absorbed as a spoil of war by the Canadian firm. As a fur-bearing area, the Spokane country was quickly trapped out.

The Spokane were not at all happy to see the Hudson's Bay Company, since 1821 the owner of Spokane House, withdraw in 1826 to its new district headquarters at Fort Colville. Nevertheless, they continued under the political domination of the Hudson's Bay Company. Spokane Garry, the son of a chief, was taken east along with other Indian boys and made into something of an evangelical Anglican, but also a rather unhappy man after his return. By the mid-1830s, Garry and other Spokane were raising crops on the Little Spokane River, and they provided seed potatoes to Henry Spalding when he started his mission at Lapwai. It is easy to forget that the Spokane were often significant donors to Euroamerican settlers.

In 1838, the Spokane were intruded upon by a pair of Congregational missionary families, the Walkers and the Eells, who brought an evangelical Puritanism for which the Spokane showed little enthusiasm. It is worth noting that Walker and Eells were not as opposed to polygamy as were the Jesuits (Ruby and Brown 1970). There were some converts, however, and a church was established that later flourished, partly under the tutelage of Nez Perce ministers, later in the nineteenth century. The Walker and Eells mission did not last beyond the Whitman Massacre of late 1847. These missionaries very reluctantly decided to leave the country for help, from both John Lee Lewes of the Hudson's Bay Company and from the Oregon Volunteer Army. There is every indication that the Spokane intended to remain loyal and protective toward their missionaries.

Fishing

On the fishing economy, our data are somewhat better. About half of Spokane and Colville subsistence derived from salmon (D. McDonald 1927). There were several fisheries along the Spokane River and on its tributaries, the Little Spokane and Latah Creek. Winans (1870) listed a large fishery near Detillion about 10 miles above the mouth of the Spokane, another about 15 miles above the first (putting it near the mouth of Mill Creek), a third at the mouth of the Little Spokane, and a fourth at Spokane Falls some 50 miles above the second. Archaeological evidence (Chance 1967) would confirm the second location listed by Winans. The latter stated that weirs were used at the first three of his locations and that baskets were used at Spokane Falls. Of these four locations, Winans thought that, at least in 1870, the first was the most important; it was also frequented by the Isle des Pierres (Moses Columbia) and the Palus. But by this time, the Palus were undergoing stress in their home territory.

Winans did not list Little Falls, between his second and third locations, where we know that there was an anadromous fishery for spearing (Ray 1936), nor did he mention a fishery known to have existed about eight miles up the Little Spokane from its mouth (Ray 1936; Bryant and Parkhurst 1950). Ray (1936) also mentions a fishery four miles below Little Falls, another near Tumtum between Little Falls and the mouth of the Little Spokane, one three miles below the mouth of the Little Spokane, and one on Latah Creek. There were, thus, at least 10 anadromous fisheries belonging to the Spokane, an impressive number. To assure fish made their way as far as the upper fisheries, there must have been significant regulation, even if self-imposed. It would be quite possible to place weirs completely across the river in some places to capture all the fish. Also surprising is the reputed dominance of the central Spokane, the Sinohomenish, when those lower down the river would seem to have had access to more fish. In late July of 1822, the Spokane at Spokane House could not get enough salmon at their weir so they left for the mouth of the river where the catch was reported to be very good (F. McDonald and Birnie 1823).

Weirs for smaller fish were seen in operation on Tsimikaine Creek in this century, and they were doubtless to be found on any stream. Spearing salmon from horseback was practiced in the Spokane River near the mouth of Mill Creek in the twentieth century (Chance 1967).

What is most puzzling is the important salmon fishery at Spokane Falls which, by all accounts, was too steep for salmon to ascend. This parallels a similar problem with the fishery at the Cascades on the Kettle River, in Colville territory. Perhaps more fish than we suspect (claimed by some to be about 5 percent) did not return to their natal streams, but possibly, too, the weirs at the mouth of the Little Spokane may at times have deflected some fish toward Spokane Falls on the main river.

It is likely that we have listed just the major fisheries of the Spokan, for there were techniques that could be employed in many stretches of the river. One of them was observed by Wilson in 1861 or 1862:

At the junction of the Great and Little Spokane Rivers, an elaborate contrivance is made for catching the salmon on their way both up and down the stream; on their way up they are caught in a similar manner and by the same arrangement as that described as in use amongst the Okinagans and Shimilkameens; but in addition to this, runs are made, with stones, through which the salmon have to pass on their way down, and at the end of these, which gradually contract, a small stage, slanting slightly upwards from the mouth of the run, is erected. The salmon coming down with the current is carried on to the stage, where he is speedily dispatched by the attendant Indians. In the erection of these, runs, much ingenuity is shown and considerable time and labor expended.

Plant gathering

The principal root grounds of the Spokan were located to the south of the Spokane River. But Spokan frequently visited the Kalispel camas grounds at Cusick to their north. There was most definitely a fall root harvest, for there are references to the return of the Spokan Chief from root gathering on November 21, 1822 (F. McDonald and Birnie 1823). There were two spring root seasons, the earlier devoted to digging couse, bitterroot, and wild onion; the later one to camas (Winans 1870). Most of this took place on the Columbia Plateau to the south of the river. There is a lack of any sophisticated ethnobotanical data on the Spokan, but much of the Okanogan data (Turner et al. 1980) is applicable even if the nomenclature does not apply without some allowance for alteration.

Historic Period/Acculturation

Spokan exposure to Euroamericans was more intensive and started earlier than with most other tribes in the Pacific Northwest. It is interesting to speculate whether this heavy exposure had anything to do with the Spokan military resistance of 1858.

After the departure of the first wave of Protestants, the Spokane came under closer attention from the Jesuit Rocky Mountain Mission. For a long while they did not have their own mission station, but were rather served from the Mission of the Sacred Heart in the Coeur d'Alene country and also from the Jesuit mission stations in the Colville Valley. The Spokane were to remain divided between Protestant and Catholic factions until the present day. After reservations became a fact in the 1870s and 1880s, the Spokane were divided between several of them, though most were located on the Spokane and Coeur d'Alene reservations. The tribe has thus been subjected to more ideological and geographical fragmentation than most.

The Spokane have been subjected to deliberate intensive, but mutually conflicting, acculturational pressures from half a dozen sources: the Hudson's Bay Company, the Walker and Eells Mission, the Jesuit Mission, the Henry Cowley Protestant Mission, the U.S. Army at Fort Spokane, the Office of Indian Affairs (especially after 1900). This pressure is more than 700 or so people ought to be asked to withstand, and the wonder is that the Spokane are not now completely destroyed.

A decade after the departure of the Walkers and Eells, the Spokane found themselves embroiled, along with several other tribes, in a hopeless but short struggle with the U.S. Army. The principal result was their defeat in 1858, at the Battle of Four Lakes in their own country (Burns 1966). Their conqueror, Colonel George Wright, took vengeance by destroying their farms, granaries, and livestock. This defeat without much doubt broke the spirit of the Spokane; thereafter they do not seem to have been visible as antagonists. In 1880, the Army established a military post at the mouth of the Spokane River, and kept a garrison of several companies there until 1898. The garrison was there, however, as much to control Euroamericans and Chinese invasion of the Colville and Spokane Indian Reservations as it was to keep the Indians in check.

In 1881, in a move evidently related to the founding of the military garrison, the Spokane were given their own reservation, and as with the Colville, it consisted of the least hospitable and arable of all their former lands. Some slight justice came to a few when uranium was found on the reservation in the 1950s, but on the whole this did not benefit the tribe very much. The Spokane remain to this day one of the most visible of the Columbia Plateau Indian tribes in the Euroamerican consciousness, but one about whom there has been singularly little professional writing. We are now about to reach the point where everything that is vivid about the Spokane past will have to come from written records.

HISTORIC THEMES

In the following text, the history of northeastern Washington and north Idaho is discussed by themes which represent the major aspects of the development of this region. These general topic areas include: fur trade, missionary activity, exploration, mining, logging, settlement, federal land management and conservation, transportation and communication. None of the categories are mutually exclusive, since, for example, one cannot discuss mining without discussing transportation or settlement. Taking these interconnections into account, the reader is advised to read the entire historic narrative before concentrating on specific areas of interest.

In most cases, each theme is discussed generally to give the reader an idea of the topic's place in and affect on history. Then, each is discussed more thoroughly in relation to a specific national forest or BLM District. There are four of these specific areas in this text: the Colville National Forest and BLM - Spokane District; the Kaniksu National Forest and BLM - Coeur d'Alene District; the Coeur d'Alene National Forest and BLM - Coeur d'Alene District; and the St. Joe National Forest and BLM - Coeur d'Alene District. The latter three forests make up the Idaho Panhandle National Forests.

The themes which deal with the fur trade, missionaries, exploration and communications have not been divided according to forests or districts. It was felt that the information in each of these categories was of such a broad nature that it should be dealt with in terms of the entire project area.

The Lewis and Clark expedition of 1804-1806 has the distinction of introducing the first Euroamericans to the project area. Lewis and Clark's journey took them along the Clearwater River, which serves as the southern boundary of this overview. These hardy explorers entered an area that was claimed by both the United States and Great Britain. Although their journey was to have important international implications, it had very little effect on this project area.

Fur traders who followed closely on the heels of Lewis and Clark had much the opposite effect. In 1807, the North West Company was in Kutenai country and by 1809, David Thompson, a North West fur trader, had established Kullyspel House on the shores of Lake Pend Oreille and Saleesh House in Montana. By 1810 or 1811, Spokane House was built on the Spokane River, and Kullyspel House was abandoned. Soon thereafter, the Pacific Fur Company also established a trading post near Spokane House. By 1813, however, the Pacific Fur Company sold out to the North West Company as the result of complications arising from the War of 1812.

For many years, the fur trader was just about the only non-Native American Indian in the Inland Empire (the area in eastern Washington, northern Idaho, and far western Montana). In 1821, the North West Company and Hudson's Bay Company merged, taking the latter name. Interior headquarters for this company were established at Ft. Colville in 1825-26 which resulted in the abandonment of Spokane House.

Missionaries began entering the Inland Empire area in the late 1830s. The Reverend and Mrs. Spalding, representing the American Board of Commissioners, established a mission among the Nez Perce at Lapwai. The Jesuits soon entered the area as well, establishing missions for Foreign Missions among the Coeur d'Alene, Kalispel, and Colville.

Settlement by Euroamericans in coastal Oregon began to expand during the 1840s, and by 1848, Oregon became a Territory. In an effort to improve transcontinental transportation and communications, and to open the interior Pacific Northwest to settlement, the federal government passed an act that provided for a railroad survey which passed through, among other places, north Idaho. This survey resulted in the selection of a route along the north shore of Lake Pend Oreille and the Clark Fork River proceeded through the Rathdrum and Prairie. It was, however, over a decade before a railroad would follow this route.

In 1855, gold was discovered in the Colville area. At this time, Ft. Colville was still the major supply point in the Inland Empire although the fur trade had sharply decreased. The Colville strikes were not rich but they did draw numerous miners to an area that previously had few Euroamericans. As the Colville area played out, new gold discoveries were made on Orofino Creek in 1860. Washington Territory was established the same year encompassing the project area.

Miners took several routes into the gold fields. By 1862, those venturing from the east could travel over the Mullan Road which passed through Idaho via the Coeur d'Alene River valley. Some miners entered into the Wild Horse country of British Columbia to try their luck. Many of these miners travelled over the Wild Horse Trail, which was also one of the main routes of the Boundary Commission as they worked on the international boundary in the 1860s.

Idaho Territory was created in 1863 and in 1870, smaller gold strikes were made in the Moscow area. These strikes had the effect of bringing settlers into the vicinity and of improving access to these regions. Supplies were now being shipped from Portland via Walla Walla. With the international boundary question solved and new routes of supply developed, Ft. Colville was abandoned in 1871.

The 1870s also saw the development of a burgeoning agricultural industry in the Palouse (the primarily agricultural area of southeastern Washington and parts of north Idaho south of Coeur d'Alene to Lewiston) area of Moscow, Idaho. Many settlers obtained land in this region through the provisions of the 1862 Homestead Act. In 1878, settlers and miners were offered timber, stone, and public land at low prices with some additional requirements as a result of the Timber and Stone Act.

Far northern Idaho began to become more accessible in the early 1880s with the construction of the Northern Pacific Railroad. This railroad was instrumental in bringing supplies at least part of the way into the Coeur d'Alene River valley. It was here in the early 1880s that gold was discovered. These first placer claims were centered around Prichard and were soon played out. The largest mineral strikes in the Inland Empire were made only a few years later in the South Fork area of the Coeur d'Alene River. The wealth of these discoveries was in silver, lead, and zinc. Similar mineral discoveries were made in the Lake Pend Oreille region around Priest Lake in Idaho, as well as Pend Oreille and Stevens' Counties in Washington. None of these claims ever generated the wealth that came from the Silver Valley (an area extending from the Montana-Idaho border west along the Coeur d'Alene River Valley to approximately Pinehurst).

Increased settlement resulted from this mining activity as well as from the construction of the Spokane Falls and Northern Railroad to Colville in 1889, and the Great Northern Railroad in the early 1890s. Steamer travel on the lakes and rivers also increased accessibility to areas. Population increases in forested areas, however, received a drastic setback in 1891 when millions of acres were withdrawn from public domain to form forest reserves. Settlers were unnerved by this development because many acres of agricultural land were "locked up" and unavailable for homesteading. Since it was not the intent of the forest reserves to shut out the farmer, the government passed the Forest Homestead Act of 1906 which allowed settlement on most agricultural lands within forest boundaries.

Although many timber interests had also become concerned about the withdrawal of these lands from public domain, the situation did not daunt the large eastern lumber companies that were planning to move to north Idaho and northeastern Washington. They were able to purchase thousands of acres of timbered lands from the railroads. Soon, the new Forest Service was also selling timber under its management programs

The turn of the century marked the beginning of the large lumber company era. The wood products industry "rode high" for many years, but by the late 1920s, work began to slow, and by 1930 the Depression had turned it upside down. By the end of World War II, the industry was back on its feet. Although many ups and downs have been experienced by the wood products industry through the years, it still remains the base for much of the economy in northeastern Washington and north Idaho.

During the 1930s, the government attempted many projects to relieve the economic pressures of the Depression. One of the more popular and successful programs was the Civilian Conservation Corps (CCC). This organization performed many useful jobs in maintenance and conservation of our national forests and range lands. The federal government also gave assistance to those who owned homesteads that were not profitable. Under the "Resettlement Administration" the government purchased homesteads and helped resettle some of the previous owners.

In 1946, the Bureau of Land Management was formed by consolidating the General Land Office and the Grazing Service. Today this organization handles a wide variety of tasks which include grazing, land management, and mineral claims.

The 1950s and 1960s were relatively stable periods in the areas of economy. During this period, there was an expansion in the exploitation of natural resources. Minerals which once had little or no commercial value were then being sought. The waterways of the Inland Empire were also developed with the construction of dams. During this time period, Box Canyon, Boundary, Albeni Falls, and Cabinet Gorge Dams were built to generate power and control flooding. Tourism also became increasingly important in the study area as people around the country became aware of the scenic beauty and recreational potential of this region.

Fur Trade

Fur traders of the North West Company first entered the Kutenai country in 1807 (Chance 1973:1). These men were lead by company trader and geographer, David Thompson, who is considered the first white person to enter north Idaho. Although Thompson spent only 68 days in Idaho, he established a fur trading network that was to be the foundation for the next half century of economic development in the Inland Empire (Wells 1959:24). The basis of this network was a series of fur trading posts connected by practical travel routes which were incorporated into the transcontinental communication system of the North West Company (Wells 1959:24).

Thompson's first journey into the project area took place in 1809 as he traveled down the Kootenai River to Kootenay Lake and back up the Kootenai and Moyie Rivers to Ft. Steele and on to Kootanae House in what is now British Columbia (White 1950:xcix). The following year Thompson and Finan MacDonald descended the Kooteani River to a Native American encampment near the present town of Bonners Ferry. From here, they transported their goods overland to Lake Pend Oreille via a route referred to by Thompson as the "Great Road of the Flat-heads" (White 1950:ci). Some 50 years later, this thoroughfare became known as the Wild Horse Trail.

Arriving on the lake just east of Sandpoint, Thompson and MacDonald set about locating a spot for a trading post. On September 10, Thompson selected a place at the eastern end of the lake near the mouth of the Clark Fork River (White 1950:ci). He and MacDonald began constructing Kullyspel House which was the first trading post in the Inland Empire. In the construction of Kullyspel House, the two men used a technique called "log columbage" which seems to have been typical of cabins in the French Canadian northeast (Wells 1959:29). Log columbage is a "system in which vertical posts are erected at corners and doorways, each post having vertical grooves which accept the sharpened ends of small horizontal logs. These small horizontal logs, extending from post to post, for the wall surface. The weight of the upper structure of the building is carried to the ground through the vertical poles. The result is a kind of cross between log and common frame construction" (Wells 1959:29).

In just over two weeks from the beginning of Kullyspel House, Thompson and some of his companions set out to explore the country down river from the post. They traveled on horseback along the north side of Lake Pend Oreille and the Pend Oreille River until they were below Newport, Washington (White 1950:ci,cii). At this

point, they borrowed a canoe from local Native Americans (White 1950:cii) and proceeded downriver almost as far as present-day Tiger, Washington (Smith 1961:14). Thompson stopped here because he had made previous arrangements to meet someone at Kootanae House. So, he returned to Kullyspel House and the Kootenai River area by retracing his downstream route. The following year he descended the Pend Oreille River again. This time he reached Box Canyon where he went ashore to examine the country for a mile downstream (White 1950:civ-cv).

By 1811, David Thompson and his men had traversed virtually every route of travel within the area. In addition to Kullyspel House, they had established Saleesh House in Montana, a trading house in Kutenai country, and Spokane House (Figure 7). This latter trading house was established in 1810 or 1811 by Finan MacDonald and Jacques Finlay (White 1950:cxiv) and was to become the principal center and depot for fur traders until 1826 (Chance 1973:26). Kullyspel House was abandoned in favor of Spokane House in 1811. It has been stated that Finan MacDonald (whose wife was a Pend Oreille) continued to trade at Seneacquoteen on the Pend Oreille River.

Many of the routes used between the trading houses became important transportation corridors for missionaries, miners, and settlers many years later. Most notable were the Great Road of the Flatheads, a section of which was to become known as the Wild Horse Trail, and the "Sheetshoo Road" between Spokane House and the crossing on the Pend Oreille River at Seneacquoteen. A section of this trail was also considered part of the Wild Horse Trail.

While David Thompson explored in the interests of the North West Company, an American company financed by John Jacob Astor also began penetrating the Pacific Northwest. The Pacific Fur Company arrived by sea at the mouth of the Columbia River in 1810 where they established a small fort (Fuller 1931:97). By 1811, an overland expedition of the same company reached the interior and "erected a competing post at the mouth of the Okanogan River, another within a stone's throw of Spokane House, and perhaps one or two other houses" (Chance 1973:26).

For a number of reasons, one of which was the War of 1812, the rivalry of the two fur companies in the Northwest soon ended, and in 1813, Astor's Pacific Fur Company sold out to the North West Company. Between 1813 and 1821, the North West Company retained a monopoly on fur trade in the Pacific Northwest (Fuller 1931:104-105; Chance 1973:36).

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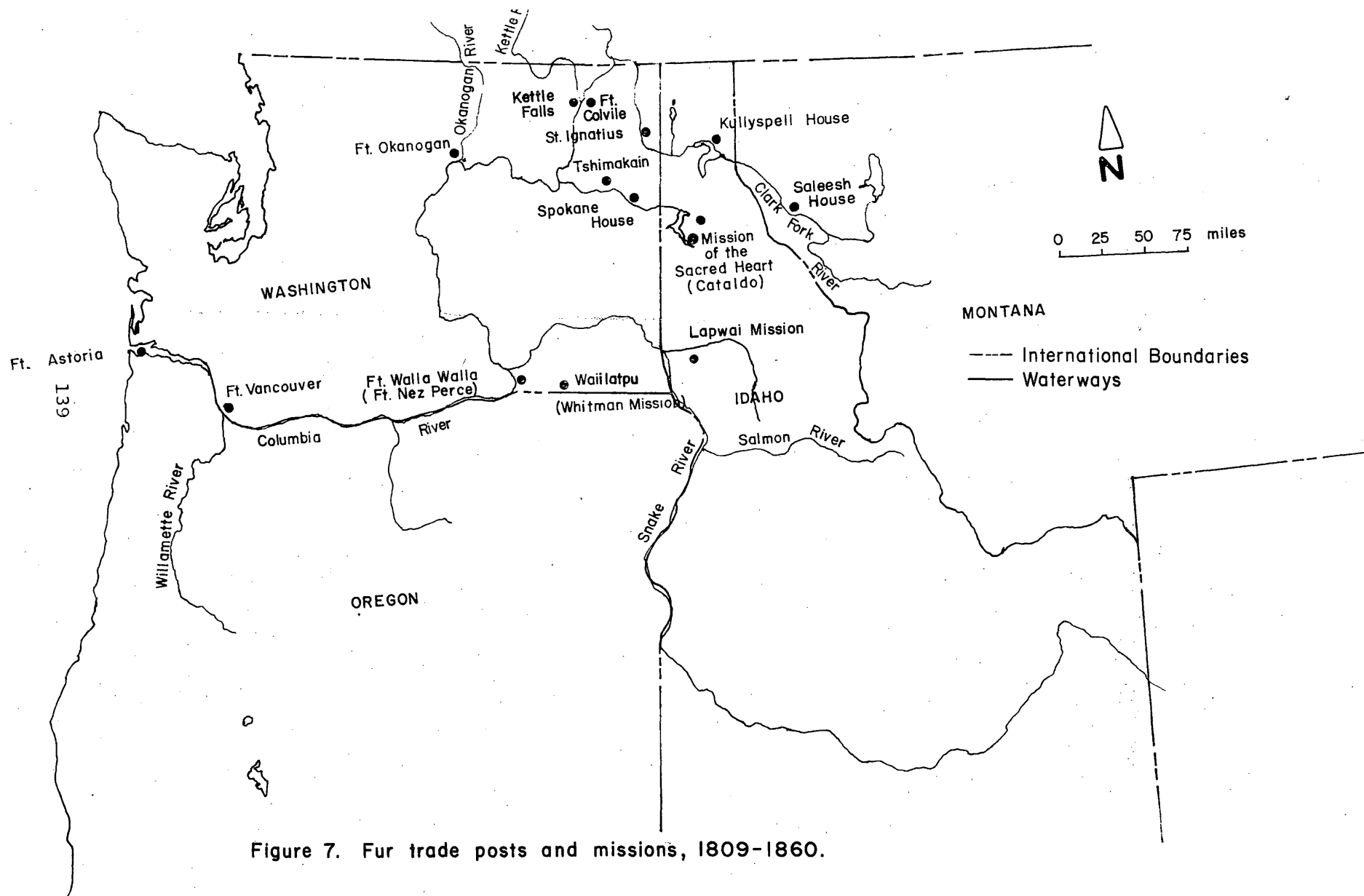


Figure 7. Fur trade posts and missions, 1809-1860.

The Hudson's Bay Company (HBC) chartered in 1670 was also a strong trading force in the frontier of Canada. The British government granted the company all trade, possessions, succession, government, and, the defense of all territory beyond the Hudson Bay. The Hudson's Bay Company and the North West Company competed for years in other parts of the continent for the fur trade. After often violent competition, the long-time rivals were ordered by the British Colonial Office to merge (Fuller 1931:110). The Hudson's Bay Company absorbed the North West Company in 1821 and with it their inland trade, posts, and personnel (Chance 1973:27).

Spokane House was headquarters for the Colville District until the decision was made to build Fort Colville. With the arrival of Hudson's Bay Company's Governor Simpson and John McLoughlin in 1824, Fort Vancouver, 100 miles from the mouth of the Columbia River, was established. With John McLoughlin as Chief Factor, Fort Vancouver was to be the principal depot in the Pacific Northwest (Fuller 1931:111). Soon after, the site of Fort Colville was chosen as district headquarters. Believing that the trading posts should be self-sufficient, Simpson chose the area of the Kettle Falls salmon fishery for its fishing and agricultural potential (Holstine 1978:9). The Company also wanted to open the northern part of the district to more systematic trapping and thought that transportation routes would be more economical and reasonable if based at Fort Colville (Chance 1973:27).

Construction of Fort Colville began in 1825 and was completed by the spring of 1826, taking the place of Spokane House. Fort Colville, headquarters of the Colville District, was the largest company post between the Cascade and Rocky Mountains. It was the company's main supplier of food and horse accoutrements for the trade in the Columbia Plateau, Great Basin and interior British Columbia. It was also the major station on the communication line which extended from Hudson Bay and Montreal to the Pacific Coast and was the head of brigade navigation on the Columbia River (Chance 1973:1). Agriculture and animal husbandry were introduced into the Colville valley by the members of the company at Fort Colville.

The visitors to Fort Colville in its 46 years of operation included: David Douglas, Jedediah Smith, Nathaniel Wyeth, Father DeSmet, Reverend Henry Spalding, Reverends Samuel Parker and Elkanah Walker, and Isaac Stevens (Holstine 1978:13).

The HBC maintained Fort Colville as an active post until Fort Sheperd was built across the border in British Columbia in 1855. Although squatters and rival traders first moved into the lands claimed by the HBC around the post in 1859, Fort Colville was not finally abandoned until 1871 (Holstine 1978:13).

MISSIONARIES

Soon after the beginning of fur trade and the establishment of permanent forts in the Pacific Northwest, missionaries entered the area to spread Christianity among the Native American populations. The early missionaries were dependent upon the HBC posts for shelter and supplies, and prior to the establishment of their missions, they used the posts as their living bases.

The first missionaries, Dr. and Mrs. Marcus Whitman and Reverend and Mrs. H.H. Spalding from the American Board of Commissioners for Foreign Missions, arrived at Fort Vancouver after an overland trip from Pennsylvania in September of 1836. Mrs. Whitman and Mrs. Spalding were the first white women to cross the continent, to undertake the dangers and hardships of the long journey and to live among Native American peoples (French 1914:18).

While the Whitmans established the Whitman mission at Waiilatpu, a few miles from Hudson's Bay Company's Fort Walla Walla, the Spaldings continued on to the south side of the Clearwater River and established a mission 12 miles above the river's mouth at Lapwai. "This was the first mission established within the borders of Idaho" (French 1914:18). Before Christmas, the Spaldings were settled among the Nez Perce and in 1839 the mission received a printing press--the first one in the entire Northwest Territory (French 1914:18). In 1838, the American Board enlarged its mission in the inland northwest by sending Elkanah Walker and Cushing Eells and their wives to locate among the Spokane. Their mission was located at Tshimakain some 25 miles northwest of present-day Spokane along the trail between Forts Colville and Walla Walla (Johansen 1967:171) (see Figure 7).

Jesuit missionaries arrived in the Northwest in 1838. Father Blanchet and his assistant, Father Modeste Demers, stopped at Forts Colville, Okanogan, and Walla Walla enroute to Fort Vancouver. "This is generally given as the date when the history of Catholicism as a church begins in the Pacific Northwest" (Fuller 1931:135). From Fort Vancouver Father Demers made visits to Walla Walla, Okanogan, and Colville. The Indian fishery at Kettle Falls near Fort Colville was often visited by missionaries. In 1841, Father Peter John DeSmet visited the area and in 1845 Father Anthony Ravalli "erected a temporary chapel among the natives camped at the falls. After some delay, Fathers Joseph Joset and Louis Vercruysse built Saint Paul's Mission on the plateau overlooking Fort Colville in 1847. The mission played a significant role in the peaceful settlement of the Colville and Columbia valleys and served as a place of worship until the late nineteenth century" (Holstine 1978:14).

Father Adrian Hoecken, with the assistance of Father DeSmet, established yet another Jesuit mission in the Inland Empire. St. Ignatius was built in 1844, just east of the Pend Oreille River near present-day Cusick, Washington. Dr. George Suckly, assistant surgeon United States Army, who was part of the I.I. Stevens railroad survey, visited St. Ignatius. He reported there being a windmill, blacksmith and carpenter's shops, barns, cowsheds, a grindstone hewn from native rock, and "an excellent chapel, in addition to a large dwelling-house of hewn timbers for the missionaries" (Durham 1912:119). He also noted that the church was quite large, and was "tastefully and even beautifully decorated" (Durham 1912:119) and that the mission farm consisted of 160 acres of cleared land with spring wheat, barley, onions, cabbage, parsnips, peas, beets, potatoes, and carrots as the principal products (Bancroft 1890:603). Other products of the farm were cattle, hogs, poultry, butter, and cheese (Durham 1912:119). Although the mission seemed prosperous, it was moved to the Flathead country, in the Bitter-root Valley of Montana, after flooding ruined many of the mission buildings.

In addition to St. Paul and St. Ignatius, the Jesuits established a mission on the St. Joe River downstream from the present town of St. Maries in 1844. This was called the Mission of the Sacred Heart of Jesus. The site location for this mission proved poor when the approach of each spring brought flooding. As a result, the mission was abandoned in 1848 and relocated along the Coeur d'Alene River on a high knoll well above flood levels.

Father DeSmet frequently visited the Jesuit missions in the Inland Empire. His journals indicate his routes along the Columbia River, the Coeur d'Alene River, the Pend Oreille River and Lake Pend Oreille, and along the Kootenai River. A more detailed discussion of the missionaries and their involvement with Native Americans in the project area is found in the previous section on Ethnographic Themes and Lifeways.

EXPLORATION

In the decade of the 1850s the United States government was responsible, at least in part, for three surveys which were to have a profound effect on the development of the Inland Empire. Perhaps the most important of these and the one that had the greatest impact on the area was the survey for a transcontinental railroad. After some debate, Congress commissioned five railroad surveys, one of which was to locate a route from St. Paul to Puget Sound between the forty-seventh and forty-ninth parallels of north latitude. The survey party for this northern most route was led by Isaac I. Stevens, newly appointed governor of Washington Territory. There were three possible courses for this survey to cross the Rockies under consideration:

1. across the Bitterroot Mountains to the Clearwater River, then to the Snake River, and on down the Columbia River.
2. across the Bitterroots, and then down the Salmon River to Pasco, Washington.
3. down the valley of the Clark Fork to Lake Pend Oreille and across the Columbia Plains.

These routes and others were explored by Stevens and his surveyors in 1853-1854. Stevens and his immediate group came down the Coeur d'Alene River, whereas Lieutenant John Mullan headed another party which descended the Clark Fork to Lake Pend Oreille and on to Lake Coeur d'Alene, and Dr. George Suckley descended the Pend Oreille and Columbia Rivers.

The results of Stevens' survey showed that the northern railroad route was not only "practicable but a very favorable one" since it followed valleys or traversed plains and the mountains at comparatively low elevations (Smalley 1883:84). It would be some years before a railroad would follow this route.

The second major government survey in the project area was that of the Mullan Road which was "scouted out", in part, during the railroad survey by I.I. Stevens. The survey and construction of this military road was under the direction of Captain John Mullan, who had been a member of the Stevens survey party. Hence, Mullan's work on the road led to its being known by the captain's name.

The idea for a military road in this area had been discussed some years but no action had been taken. With an increase in Indian trouble the issue was revived in 1857 (Womack 1977). There was concern that the Oregon Trail, being the only overland route used to bring supplies and troops into Oregon and Washington, might be closed off during times of Indian trouble. It was felt that another route via the Missouri River system to Ft. Benton and on to Walla Walla would be essential from a strategic point of view. As a result, construction of the Mullan Road was begun in 1859.

As the Mullan Road approached Idaho, it followed a route around the southern end of Lake Coeur d'Alene and then northeast along the Coeur d'Alene River past the Mission of the Sacred Heart, then along the South Fork of the Coeur d'Alene and over the Bitterroot Mountains into Montana. Very soon it became apparent that the route around the southern end of the lake was a poor choice. During parts of the year flooding made the road impassable. As a result, the route was changed to pass above the northern end of the lake. By the time the road was finished there really was no military need for it. And, soon thereafter, with the onset of the Civil War, the government put its money and concerns toward the war effort resulting in the road's rapid deterioration. R.H. Hewitt traveled over the Mullan Road in 1863 and had these words to say:

"over corduroy roads, stumps, stones, and bridges innumerable we pounded along, until it seemed as though everything would be broken into atoms. How it is possible to pronounce this a good road we cannot conceive, as a much worse one can hardly be imagined...to say that we were disappointed and misinformed, regarding this route, would be adding only what we have learned to our cost and serious disadvantage" (Hewitt 1863:60-61).

The Mullan Road continued to be used, however, by travelers and traders such as John Owen, who purchased the old St. Mary's Mission and set up a trading post there (Dunbar 1927). In later years, the road served as one of the main routes of travel during the Coeur d'Alene gold rush and as a transportation link with Spokane and other towns to the west. Even into the early years of the twentieth century, oral history informants in the project area remembered driving horse teams over the Mullan Road for family excursions (Hunt II,B,6-8; Scribner I,B,22-27).

The third government survey performed in the project area was that of the boundary location between the United States and Canada. This boundary had been set at the forty-ninth parallel by the Treaty of June 15, 1846, which made provisions for a joint British-American commission to establish the line. The task of physically setting the International Boundary was carried out between 1858 and 1862 (Stanley 1970). Each of the survey commission teams worked separately, but had agreed to accept the work of the other subject to examination and revision when all the field work was complete (Renk 1978:2). The commission teams cut a track through the forest that was 20 feet wide and a half mile or more on either side of chosen fixed points to mark the boundary (Anonymous 1903:760). They also cut wide swaths where streams of any size, trails, or striking natural features intersected the line (Vollmer 1903:760). In areas where there were settlements, the length of the cleared area was extended and stone monuments were erected (Anonymous 1903:760).

During the winter of 1860-61, the commission was headquartered at Fort Colville. Charles Wilson of the British Commission referred to the fort as the "penitentiary" after having spent a "long and weary winter imprisonment there" (Stanley 1970:145). By May 25, the commission was at Seneacquoten (Stanley 1970:147), which was one of their supply points. By July 12, Wilson and his companions were at Cheleempta, near Bonners Ferry, Idaho, which he referred to as one of the commission's advanced depots (Stanley 1970:150). The commission used trails established by the local Native Americans. The commission's work was prematurely stopped when the Civil War broke out in the United States.

MINING

Introduction

Prior to the discovery of gold in northern Idaho and northeastern Washington, few settlers were to be found in these areas. Those who had come to the Northwest had settled in the rich Willamette Valley and the southern Puget Sound area (Holstine 1978:15).

The California Gold Rush of 1849 attracted a large number of people to the west. "The gold excitement of the days of '49 in California naturally spread from that territory and, as men penetrated the different parts of the Northwest, they were constantly on the alert for traces of precious metals" (French 1914:26). With many Californians involved in the search, the fever for gold spread and discoveries were made, one after another, in the areas of Colville, Fraser, Pierce, and Orofino (Trimble 1914:10).

"Mining opened the interior to settlement, was the foundation of its prosperity, stimulated railroad building, and is of increasing importance in the present generation" (Fuller 1931:304). In addition to stimulating railroad building, "steamboating entered upon a new phase in its efforts to serve the wants of the mines of the Inland Empire" (Trimble 1914:124-125). In both the Colville and Orofino strikes, settlement was stimulated and outfitting centers developed along the way. Thus, more so than fur trading before, the gold rushes into northeastern Washington and northern Idaho paved the way for settlement, resulted in the establishment of towns, and encouraged the growth of better transportation systems.

The main thrust of the first gold rushes into the Inland Empire at Colville and Orofino began in 1855 and continued into the 1860s. Discoveries in the Wild Horse country of British Columbia in the 1860s drew miners from the gold fields of California, Colville, and the Fraser River. As these "gold fevers" began to cool, in the late 1860s and 1870s, new discoveries were made in the Coeur d'Alenes (an area of mining and logging activity which embraced the various forks of the Coeur d'Alene River and its tributaries). This prompted a rush to the area which eventually filtered into the more northern parts of Idaho and northeastern Washington. It did not take long to discover that the long-lasting wealth of the Coeur d'Alenes was in the lead, silver, and zinc and not the placer or quartz deposits.

The mining industry has suffered many ups and downs since the 1850s. National financial problems in the 1890s caused many of the mines to close for some time. These difficulties, combined with labor disputes, specifically in the Coeur d'Alene mining area, had quite an impact on the area. Many quartz gold operations closed during the early twentieth century because it simply was not financially feasible to mine with the fixed price of gold. However, the mining of base metals took a downward turn. The arrival of a new decade and the onset of World War II brought a boost in the production of base metals such as zinc and lead. This production was largely a result of the war effort.

Over the last 30 or 40 years, there has been an interest in metals that previously lacked a market (Idaho Historical Society 1962). In more recent years coal, uranium, gas, and oil exploration have become more and more common. In addition, the recent high price of gold has stimulated new prospecting and the reopening of old mines in the Inland Empire.

Techniques

This discussion will be limited to the techniques involved in prospecting, mining, and processing gold and silver, lead, and zinc. Of all minerals mined, in the Inland Empire, these have had the most dramatic economic and social impacts.

Placer Deposits

Prospecting

The first precious metal looked for in the Inland Empire was gold. Gold's popularity was due, in part, to the relative ease of placer deposit discovery. Silver is not ordinarily found in placer deposits because it combines readily with most acids and forms soluble compounds which are carried off during erosion (Paul 1963:6-7). Placer deposits are formed as gold erodes away from lode deposits and is transported by existing or prehistoric streams to be deposited on sandbars, in gravel banks, or in pot holes in streambeds (Paul 1963:6). Because gold is heavier than the usual surrounding sand and gravels, it sinks to the bottom and becomes a placer deposit.

To locate these deposits, small parties of usually five or six, but sometimes up to 50 people, began panning rivers, streams, and creeks (Trimble 1914:223). In the Inland Empire, it was quite common for prospectors to go alone in search of gold. Tools used in prospecting included picks, shovels, and pans. The pans were made of iron or tin and were usually six to eight inches deep and a foot or more in diameter at the bottom (Trimble 1914:223).

Panning was normally done with deposits from the stream bed or from the stream bank. According to residents of the project region who had watched or participated in these panning activities, many prospectors would go into a stream and work the banks on each side (Sanderson III, A, 6-7:30). Natural sand bars were also popular placer sites. "Most of the old workings...they would take the river bars and stuff like that. They didn't go out in the channel itself" (Space II, A, 3:30-4).

The deposits were then shoveled or picked out and placed in a pan. The sand and gravel was "alternately agitated under water and washed, picked, and scraped out of the gold pan until nothing but grains and nuggets of gold" were left at the final swirl (Ojala 1972:5). Panning was a slow and quite tedious process, often yielding very little gold. As a result, many prospectors gave up and moved to other potentially rich areas, or, according to oral history interviewees, became farmers instead (Hupp I, B, 0-2:30). Occasionally the placer claims abandoned by these Euroamerican prospectors were taken over and reworked by Chinese miners who were willing to pan for a much lower return. As one informant told it "The Chinamen worked any ground that they could make 25¢ a day... In those days \$2.50 a day was the going wage for anyone..." (Space II, B, 9:30-10). These Chinese prospectors also faced much harassment and even violence from other miners, a situation which is discussed in more detail in the "Mining Technology" section of the *Oral Traditions Overview*.

Claims

When a prospector first discovered gold, he staked a claim. Claims had to follow regulations and guidelines that had been established locally. These regulations were usually developed by groups of miners who worked and settled in an area, and who had formed a mining district. Each defined district "elected officers, established mining laws and regulations, and made arrangements for the recording of claims" (Wells 1961:11). In addition, the districts also complied with federal regulations, adopted under the May 10, 1872, Mining Act. Appendix A includes

a copy of the local laws of the Coeur d'Alene mining district located on Prichard and Eagle Creeks in Idaho. Oral history interviewee, Ralph Space, indicated that Pierce miners formed a similar district with a recorder to list all new discoveries (Space II,B,10-12).

Placer claims not located in these defined areas were allowed to total 20 acres, but could not exceed 80 rods in length (Smith 1932:110). Usually these claims had to be marked in some way; stakes were the method most frequently used. Byers Sanderson, for example, who lived and prospected in the Latah/Clearwater County area, indicated that some kind of natural landmark like a tree or mountain was often used to identify the location of a claim. The claim boundaries were set using a discovery post and five other stakes placed at specified distances apart. To ensure that this claim was respected, the prospector would often draw a map of his ground, sign it and place it in the location tree (Sanderson III,B,0-4).

According to documentary sources, claims had to be recorded at the nearest General Land Office. Several oral history informants, however, believed that claims needed to be recorded only at the County courthouse with the County Auditor. They indicated that the auditor also handled proof of assessment work on the claim (Sanderson III,B,0-4; Kinney I,A,35:30-38).

Recovering Gold

After the initial prospecting had determined the presence of gold, the "pan" was usually discarded for a more efficient method of recovery. The next method employed usually depended on the availability of water, the depth of the deposit, the number of people working the claim, and the amount of capital available for investment.

The rocker or cradle was the "simplest" method to be employed. It took only one or two people to operate and was usually used when water was in short supply. The rocker was a box-like affair open at one end to allow water to escape. On the bottom of the box were slats or riffles. At one end of the box, on top, was a removable hopper with some sort of mesh screen, or perforated iron on it. First dirt was shoveled into the hopper. It was then rocked back and forth as water was poured over the dirt. The finer sands and gravels, and gold (hopefully) were washed through the screen or holes into the bottom of the box and over the riffles. Being heavier, the gold would collect behind the riffles and the lighter sands and gravels would wash out of the rocker box (Young 1970:113). At this point, the water could be saved and used again. Periodically, the larger gravels were dumped out of the hopper and the gold was collected from behind the riffles in the rocker box.

What the rocker was, in efficiency, over the gold pan is what the sluice was over the rocker. In discussing the economics of mining methods, Livingston-Little (1965:28) put it this way: "With hard work a miner could pan 100 pans a day, or about one cubic yard. At five to seven cents a pan he would make five to seven dollars a day, perhaps five to ten times what he could have earned elsewhere. With a rocker he could make somewhat more with less work, and with a sluice, two or three times as much." If water was easily available or if it could be brought in via canals (ditches) or flumes, then the sluice was preferred. Oftentimes, a sluice box was "ten or twelve feet long, twelve inches wide and eleven inches deep" and "arranged in 'strings' in such a manner as to allow a current of water from a ditch to be run through the boxes" (Trimble 1914:228). This string of sluices was arranged in a creek where the water was funneled into them. Another author describes a sluice box as a "long and narrow, slightly inclined trough with a series of riffles" (Ojala 1972:5). As the gold-bearing gravels are shoveled into the sluice, water washes them down the trough where the gold particles settle out behind the riffles while the sand and gravel are washed off (Ojala 1972:5).

Although oral history informants in the project region never mentioned the use of rockers, they did indicate that sluices similar to those described above were utilized. The type and size of sluice used depended on the scale of the mining operation. At the Gold and Ruby Mine, for example, Alvin Flory described huge sluices placed in Boulder Creek which had log frames with metal pieces, probably railroad iron, used as riffles extending the entire width of the creek (Flory III,B,17:15-23:30). Other sluices were much smaller, and were often used in conjunction with other equipment like a "jig", which helped to break down the gravels before they were washed (Sanderson III,A,6-7:30).

Although it was not essential, quicksilver was often used to recover gold from a sluice. "Transverse cleats were nailed to the bottom of...(the) sluice box, and quicksilver was poured into the mixture of dirt and water in order by amalgamation to secure a larger percentage of gold than would otherwise be possible" (Trimble 1914:228). This technique was evidently used by some miners in the region, for several oral history interviewees were familiar with it and could also describe the retort process used to separate the gold recovered in this way from the mercury (Space II,A,24-25:30; Cox, I,B,506:15).

Using the above methods, it was usually impossible to reach placer deposits that were under heavy overburden or in deep gravels along prehistoric river channels. As a result, a system of hydraulic mining was often employed. Through a system of ditches and flumes enough water with sufficient amassed pressure was passed through iron pipes and out a nozzle (referred to as an hydraulic giant) with great force. The dirt that was washed loose was then run through sluice boxes (Paul 1963:29-30) from which the gold was recovered. One such operation, which was mentioned during oral history interviews, was at the Gold and Ruby Mine in Boundary County near the settlement of Ione. Informant, Alvin Flory provided a detailed description of this hydraulic system which was included in the section on "Mining Technology" of the *Oral Traditions Overview*.

The main drawback to this method was that it required substantial capital to purchase equipment, build flumes and ditches, and to pay the many miners needed to make the operation work. As a result, this method was often slow to catch on in certain mining fields (Paul 1963:30). The Gold and Ruby Mine recruited young families to work at its operation by offering them shares in the mine, but only a minimal stipend for their labor. Unfortunately, not enough gold was found to make it a profitable operation (Flory III,B,17:15-27:30).

The easily obtainable placer deposits were played out quickly in each of the gold rush areas. Deep deposits were left because the technology was not available at the time to remove them economically. In the Inland Empire, this technology arrived with the advent of the dredge in the early twentieth century. The dredge "is essentially a series of jigs and sluices housed in a barge that creates its own pond as it moves up and down the flat valley bottom. Gravel is scooped up by a continuous series of chain-mounted buckets at the front of the dredge under the force of gravity, and the processed gravel, minus most of the gold it had, is expelled via an elevator or stacker at the rear of the structure. By this method, the dredge enlarges its floating area in front of itself and fills it in with waste gravel in the rear, thus working the gravel of the valley in long rows" (Ojala 1972:6). In an oral history interview, Tom Hunt described one such dredge which was operating in the Prichard Creek area in the 1920s, while Lloyd Stalnaker described similar operations near Elk City and Pierce (Hunt I,B,17-19; Stalnaker II,A,4:30-6).

Lode Deposits

Prospecting

The search for the lode deposit began almost as soon as the placers were discovered. Technically speaking, a lode occurs when "several veins of ore are found close together so that the intervening rock can be worked as a unit" (Paul 1963:6). In mining practice and mining law, the terms lode and vein are used interchangeably (Paul 1963:6). However, silver and gold are not always found in lode or vein deposits. Sometimes they occur in replacement deposits (Paul 1963:6). "This means that the ore-bearing deposits rising from below actually penetrated solid rock, and perhaps aided by minute cracks, dissolved it, and substituted new minerals for the original matter" (Paul 1963:6).

In the project region, prospectors spread throughout the mountainous areas looking for what interviewees called surface outcroppings or "color". Generally, when prospecting for these ore deposits, the miner was always on the lookout for anomalies, something that deviated from the normal surroundings. Oftentimes, this deviation would manifest itself in a rock outcropping that was seemingly harder or softer than the surrounding rock. Sedimentary formations were not ignored. If an igneous intrusion proved barren, the contact zone of metamorphosed sediments, such as schist, shale, or slate, might need to be examined (Young 1970:19). Lodes were also traced by the local placer deposits or "float". If the placer deposits were angular and showed little signs of wear, then a miner might assume that the lode was closer than if the deposits were well worn from long journeys down hillsides and stream beds (Young 1970: 21).

Prospecting in the twentieth century has advanced quite a bit from the shovel, pick, and pan of the early mining days. Although individual prospectors do utilize these tools, there has been a shift in reliance to more sophisticated instruments. Prospecting is now generally carried out by teams of highly-trained specialists. Geologists, geophysicists, and mineral engineers from large mining corporations pool their knowledge and talents in locating new mineral sources. Single prospectors still search for minerals and do contribute to new discoveries, but they are far fewer than in the early days of mining. As minerals become more scarce, prospecting becomes more expensive and time consuming. More sophisticated methods of exploration are needed and more remote areas are being explored.

Today, exploration for new minerals involves much more than just looking around for a likely spot. Mineralogical publications are consulted as well as aerial photographs, geological maps, engineering reports, and geological survey reports. Information gleaned from these sources might enable the prospecting team to narrow down its areas of exploration. Sizing down the area of exploration is much more difficult in remote areas because such sources of information are often not available.

The method of exploration utilized depends on the mineral being searched for, the geographic area involved, and access. Geophysical examination can be accomplished through magnetic, electrical, gravitational, or seismic methods to detect ore deposits. Trenching and test pits are also used when minerals are suspected in a certain area. This can be accomplished either by hand or with power equipment. In some instances, a pointed steel rod, called a drivepipe, is driven through shallow overburden to locate underlying rock which hopefully bears minerals. Soil samples can also be taken with the drivepipes. The soil in turn is panned to determine the presence of the ore deposits. This method is best used in areas where there are few rocks.

Another method of mineral exploration is drilling. Either hand or mechanized drills can be used depending on the depth desired and the geological formation being explored. The cores from these drillings are examined to determine the presence of ore bearing bodies.

Claims and Ore Recovery

Historically, once the lode was located it, too, had to be claimed in accordance with local and federal mining laws. The same holds true today with all transactions.

The operation of a lode mine has always been much more costly than that of a placer development. First, the ore had to be removed from the ground which usually entailed digging tunnels (shafts and drifts). This procedure, in turn, usually required many more miners than the average placer operation and more capital investment. However, the advantage of lode mining over placer was that it generally proved to be a more stable enterprise. The life span of the placer was generally limited to a few years, whereas development of lode deposits usually lasted a number of years. The Bunker Hill Mine, for example, operated almost a century and has recently closed because of economic conditions, not for lack of ore deposits.

When lode mining began in the project area, it was on a small scale, although it rapidly grew. Mining a lode deposit commences when a drift is dug along the vein beginning at the discovery point. At first, this work was done with only pick and shovels, aided by the wheelbarrow for removal of the ore.

This method of mining changed as the mineral deposit began to show promise and the ore became harder to pick. Explosives were then used to free the rock and ore. Dynamite was employed from the mid-nineteenth century to the 1950s when more complex blasting agents came into extensive use.

To ready the area for blasting, holes were drilled into the rock so that the explosive charges could be set. Prior to the use of power equipment in a mine, these explosive holes were drilled by hand using a steel drill and hammer. This hand steel as it was called by local interviewees was described as being "a bar steel with a bit on the end like a chisel bit" which varied in length from two to six feet (Kinney I,A,18:30-22:30).

With only candles for light, a miner would hold the drill in one hand and strike it with a sledge held in the other hand. This technique was called single jacking. When two or more miners were involved, one holding the drill and one or more hammering, it was termed double jacking (Figure 8). Slowly, as the bit was hit and turned, the holes were drilled.

Several holes were drilled in a general area so that a large section would be blasted out. The placement of these holes and the order in which they were fired was essential in order to remove the maximum amount of rock and ore.

This same technique is employed in modern mining. The equipment, however, has improved a great deal from the hand drill. By the 1890s compressed air drills were being used in the project area. These drills were usually mounted on a stand and were operated by one or two miners. Material was removed from the hole by either air or water. Two such drills, the Burleigh and the layner were described in detail by oral history informants in the "Mining Technology" section of the *Oral Traditions Overview*.

Today, drills are still used in the mines of the project area. They have been vastly improved over the early-day models. Some are powered by electricity, while others continue to be run by compressed air. Improvements in the efficiency of mining drills have been accompanied by the development of new and more efficient drill steel and bits. The sharpness of the bit is of utmost importance to the miner. Maintaining the sharpest possible edge has been an ongoing task since the time of hand drills. However, in the 1940s, drill bits with tungsten carbide inserts in the cutting edge were introduced. This innovation doubled



Figure 8. Double jacking (courtesy of Shaft and Development Machines, Inc. and Buck O'Donnell).

the distance the bit could drill. Diamond drills were also introduced and have been preferred when great length is needed because of the superior hardness of the material. These diamond drills are quite costly and interviewee Lin Kinney, former employee of the Pend Oreille Mines in Metaline Falls, Washington, mentioned a less expensive material, bort, which is often substituted and is nearly as effective (Kinney I,A, 43:30-45:30).

Once the holes were drilled and the explosives set and detonated, the rock and ore had to be removed to be processed. The processes of removing this material was called mucking. Early mining operations accomplished this task by shoveling the rock and ore into a wheelbarrow. The wheelbarrow was then pushed to a point where the rock and ore could be unloaded for transportation to the processing area.

The wheelbarrow was eventually replaced by the mining cart which was pushed, usually on tracks, to an unloading point. Much to the relief of the muckers, horses and mules were soon used to haul these ore carts; however, the mucking continued to be done by hand. Mules were preferred in most of the mines of the project region because they were considered smarter and stronger than horses. According to oral history interviewee, William Dunphy, mules were often kept underground in the Coeur d'Alene Mines for up to six months, moving up and down the drifts with just a carbide light on their collars (Dunphy I,A,13-19; 22-27).

As more and more power equipment was brought into the mines, the transportation and mucking also became increasingly mechanized. Today, some mines have introduced small electric railway systems which transport the rock and ore from the blasting area to the point of processing. Other mines are large enough to accommodate trucks for moving ore. The tunnels at the Pend Oreille Mines are, for example, 16 feet by 16 feet so that 20-ton trucks could be used.

Mucking the ore into these trucks, or carts is now done with machines whenever possible. The evolution of these mucking machines as described by interviewee William Dunphy, is included in the "Mining Technology" section of the *Oral Traditions Overview*.

The next step in the mining process was to remove the muck from underground. In the early days of mining, individual prospectors might have actually loaded the material in packs on their back and climbed out of the shafts with it. Oral history informants in this region also remembered seeing buckets used which were lifted from the mines by a winch or windlass system (Flory II,A,11:30-16). Many smaller mines were dug into the side of a hill (sometimes called drift mines), and the drifts were nearly horizontal so that the muck could be wheeled out easily (Flory III,B,11:15-15:15).

In larger, more mechanized mining operations, the ore could be transported directly to the top in ore carts, or it could be taken to a shaft where it was hoisted up in elevators or skips; skips, which were described by one interviewee as "mine cars that run in shafts underwent many changes through the years, most of which were associated with methods of dumping the rock and ore into bins" (Dunphy II,A,20-21).

Once the muck was removed from an underground area, the miners prepared to begin the drilling and blasting process again. In order to continue to mine at a particular site, the sides and overhead portions of the drift usually had to be opened up and then reinforced or supported through a technique called stoping. This stoping process, according to oral history informants, generally entailed blasting down the back of a drift and timbering it or building up the floor so that there was room above it to get into mine again (Dunphy I,B,23-28; Fair-weather I,A,21-25:30; 28-33).

Documentary sources indicated that some of the earliest methods of support included rock, mortar, or wood pillars. In some cases, pillars of unmined rock were left to provide support for the mining areas around them. Oral interviewee Alvin Flory remembered seeing such rock reinforcements in some of the smaller mines in Boundary County. Narrators familiar with mines in the Coeur d'Alenes most often referred to the use of timbers, or "corral posts" as William Dunphy called them, to add support. Between these six to eight inch poles, fill would be added to hold up the walls (Dunphy I,B,23-28).

Although not specifically mentioned in oral interviews, another common support technique was a wooden cribbing. The logs were laid across one another like Lincoln logs to form the box-like support. The square-set, an improvement over the pillar method, was developed during the years of the Comstock mining days in the late 1850s and 60s. Developed by Philip Deidesheimer, the square-set was a "cube whose edges appear to have consisted of eighteen-by-eighteen inch timbers, mortised together and capable, within reason, of supporting the heavy ground of the mine as well as dozens of its fellows in the great stopes" (Young 1970:244). The square-set became very popular because it was much more economical to use than pillars. Some of these methods are used today to varying degrees depending on the character of the mine involved. Some of the more modern methods for supporting include placing a series of metal rods, with bolted plates on the ends, into the walls of the stope or shaft. Wooden square-sets are also still used in today's mines. In some operations support braces are constructed from cement and arranged so they form a solid archway system along the drift.

Ore Dressing

One of the simplest ways to remove the ore from its matrix was to process the material through an arrastra. Trimble (1914:231) described an arrastra as being a circular area paved with stones, in the middle of which was a post. To this post was attached a sweep (a horizontal arm) to which a mule or horse was hitched. A block of granite, fastened to the sweep, was dragged around over the quartz that had been distributed in the circle. This circular area often had walls to retain the quartz rock while it was being crushed. Actually, one person could operate an arrastra and mine if the operations were carried out alternately (Trimble 1914:232).

Although no interviewees in the project area mentioned using this process, arrastras were common in similar mining areas. It was a slow operation, however, and was soon replaced, at larger mines, by stamp mills. This equipment required much greater expenditures and, often, outside financing was sought to support them.

In the stamping process, the ore which was removed from the mines, was broken up into apple or egg sized pieces. It was then shoveled into the mill where it came into contact with the stamps. These stamps were "heavy iron heads mounted on vertical stems that rose and fell in response to the turning of a horizontal shaft to which the stems were geared" (Paul 1963:31). The stamps weighed from 300 to 800 pounds and rose and fell sometimes 60 times a minute as they crushed the ore to a wet powder (Trimble 1914:232). "This 'pulp' was then run through settling tanks, amalgamating pans, agitators and separators, refuse passing away, and quicksilver (mercury) collecting the precious metal into a mass of shining amalgam" (Trimble 1914:232). As this amalgam went into the retort (a vessel in which substances were distilled or decomposed by heat), the precious metal was formed into bars.

Another process entailed running the ore down a series of tables that were inclined. These inclined tables were equipped with a riffle system which would catch the heavier materials allowing the waste to continue down the table systems through a process of gravity. The ore (or concentrate) that remained was then shipped to the smelter. Although documentary research showed these tables were used fairly early in larger mines, one oral interviewee, Lin Kinney, also described a similar system used by individual miners or prospectors with small claims. According to Kinney, tables were occasionally built by miners with lumber they had packed into their site. These tables were slotted and usually constructed on a 5 degree slope. Originally rotated by hand to move the ore, Kinney recalled that later, in large operations like the Pend Oreille Mines, these movements were machine activated (Kinney I,B,4-7).

Further refinement of this process entailed the use of the ball mill. This machine was a "large hopper in which steel balls were used to crush the ore as the hopper rotated" (Sloane and Sloane 1970:34). By placing the proper amount of oil and water in the ball mills in addition to a small amount of acid and sodium cyanide, a rich foam was formed (Sloane and Sloane 1970:34). This foam attracted the metallic metals in the "float" (Sloane and Sloane 1970:34). This amalgam could then be smelted and the metal separated. The flotation process was generally used for copper, lead, zinc, silver, molybdenum, and graphite (Rickard 1932:414). This process replaced gravity concentration in the Coeur d'Alene district around 1916 (Reid 1961:24). According to interviewee Lin Kinney, the gravity system in the #1 mill of Pend Oreille Mines in Metaltine Falls, was replaced in 1935 by a total flotation system. A third mill completed in 1954 was also a flotation mill. Kinney indicated that in these mills, the lead and zinc ore first went through a crushing plant which reduced the ore to three-quarter inch or less. In the ball mill this material was ground further down into powder which was then sent through a classifier. Ore that was too coarse was put back through the ball mill while the rest went into the flotation cells.

In these flotation cells, according to Kinney, "...reagents or chemicals are added that float the lead and depress the zinc and depress the waste rock. The depressed material then goes from there to another set of cells; other reagents and chemicals are added which float the zinc and depress the waste. The product off the lead cells goes to a filter (when it goes in it is probably 60 percent water and 40 percent solids) which takes the water out of the lead concentrate to try to get it down to the minimum amount of water, probably 8 percent moisture. The zinc also goes through a filter and the water is taken out of that to get it down again to 6 percent to 7 percent moisture and that is the concentrate" (Kinney I,B,28:45-31:30). Young (1970:286) states that "cyanide rang down the curtain upon the frontier period of American gold and silver mining, although cyanide was really more a symptom than a cause." This heralded the age of "modern" mining that brought mining engineers and a new culture to mining communities.

Today, flotation is still a very popular method for producing ore concentrates and is the main method used in the Coeur d'Alenes. The technique has gone through some refinements and is more efficient than during the early part of the twentieth century.

Mining Communities and Social Affairs

Trimble (1914:282) states that "the characteristic abode in the mining region was the log cabin roofed with shakes or...with dirt."

His findings were confirmed by oral history informants in the project region who remembered seeing primarily log structures in local mining areas. According to these narrators, the level of complexity or care taken in the construction of these buildings varied with the scale and location of the mining operations. Most individual prospectors, for example, had fairly crude one-room cabins, while near larger mines like the Continental in Boundary County, more large two story log homes were built (see "Mining Technology" section of the *Oral Traditions Overview*).

The towns, too, were often constructed of logs, although lumber was usually available in a short time after sawmills began operating. This lumber was not only used for businesses and homes but also for support structures in the mines. Many of the mines had their own sawmills for this purpose. In Boundary County, for example, informants remembered that both the Continental and the Gold and Ruby Mines had sawmills, as did several of the larger mining operations in the Coeur d'Alenes (Flory III,B,3-4:15; III,B,23:30-27:30). Occasionally, tents served as buildings before lumber was available, or in mining towns of short duration. There were, of course, "towns" that never progressed past the tent stage.

Towns usually sprang up where a concentration of mining activity was going on or where supply routes crossed. These towns offered every line of business from dental and law offices to mercantiles and gambling halls. The latter was often the main amusement for the miners, whether betting on fist fights or horse races (Trimble 1914:284-285). Saloons, too, offered gambling in the more "organized form of dice and card" (Trimble 1914:285). There was, of course, liquor to be had there and the companionship of women.

All of these activities were costly, and as oral history informant Ed Walter suggested, "The old prospectors never made any money" (Walter I,B,21-23). Republic at one time had two gambling halls and 22 saloons (Walter I,B,21-23), while William Dunphy remembered that there were 26 saloons in Wallace around the turn of the century. Miners came to Wallace from many surrounding towns like Burke and Mullen to take advantage of these facilities and to follow the girls who had been driven out of other towns by more straightlaced members of the community (Dunphy, personal interview, Appendix D, *Oral Traditions Overview*).

One of the more important businesses in a mining town was that of the blacksmith's shop. Drills were constantly wearing out and in need of sharpening, while new ones had to be made. Often, the larger mines employed blacksmiths to work exclusively for them. Even in very small mining operations, it was necessary to keep bits sharp and, oral history interviewees remarked that if a miner built any other building near his claim other than a cabin, it would be a blacksmith shop (Flory II,A,16-17:30).

The staples of a miner's diet included: bread, bacon, beans, coffee, and perhaps tea (Trimble 1914:283). Prices varied depending on supply and some items such as eggs and butter were always luxuries. Meat could be had at reasonable prices in the summer when cattle and sheep were at the camps (Trimble 1914:233). Of course, wild game and fish were available, but very few miners wanted to take the time from their work to provide these items.

Oral history material, in contrast, indicated that individual prospectors in the hills of northern Idaho and northeastern Washington did hunt and fish to supplement other food sources. These men usually only had a little money or small grubstakes and, thus, had to be as self-sufficient as possible. Staples like flour and beans were purchased in town and packed in to their claims where they were always stored in metal containers because of packrats (Flory II,B,7:45-10:30).

In the early days of mining most prospecting was done by men, or so it appears from the written record. This view was also corroborated by interviewees in the project region who mainly remembered single men spending their lives prospecting. Those miners with families usually left them in nearby towns while they went up into the hills, or, as in the case of the Coeur d'Alene region, left them on farms or homesteads elsewhere while the men stayed in boarding houses or "beaneries" near the mines in which they were employed (Flory II,A,17:30-19:30; Dunphy II,B,5-7). No informants remembered any women miners. Over the years, however, women and families began to arrive to take their place in developing mining communities.

COLVILLE NATIONAL FOREST BLM - SPOKANE DISTRICT

The rush for minerals in northeastern Washington (Figure 9) began with the discovery of gold in the Colville area. The placers were seemingly too small and low grade to hold the prospector's interest for long, and their attention was quickly directed to other areas (Hunting 1955:28). Soon gold was discovered further north on the Fraser River and the rush moved on. When the Colville Indian Reservation was opened to mineral entry, gold was discovered in the Republic area. As the placers were quickly mined and towns settled, lode mining by established companies began.

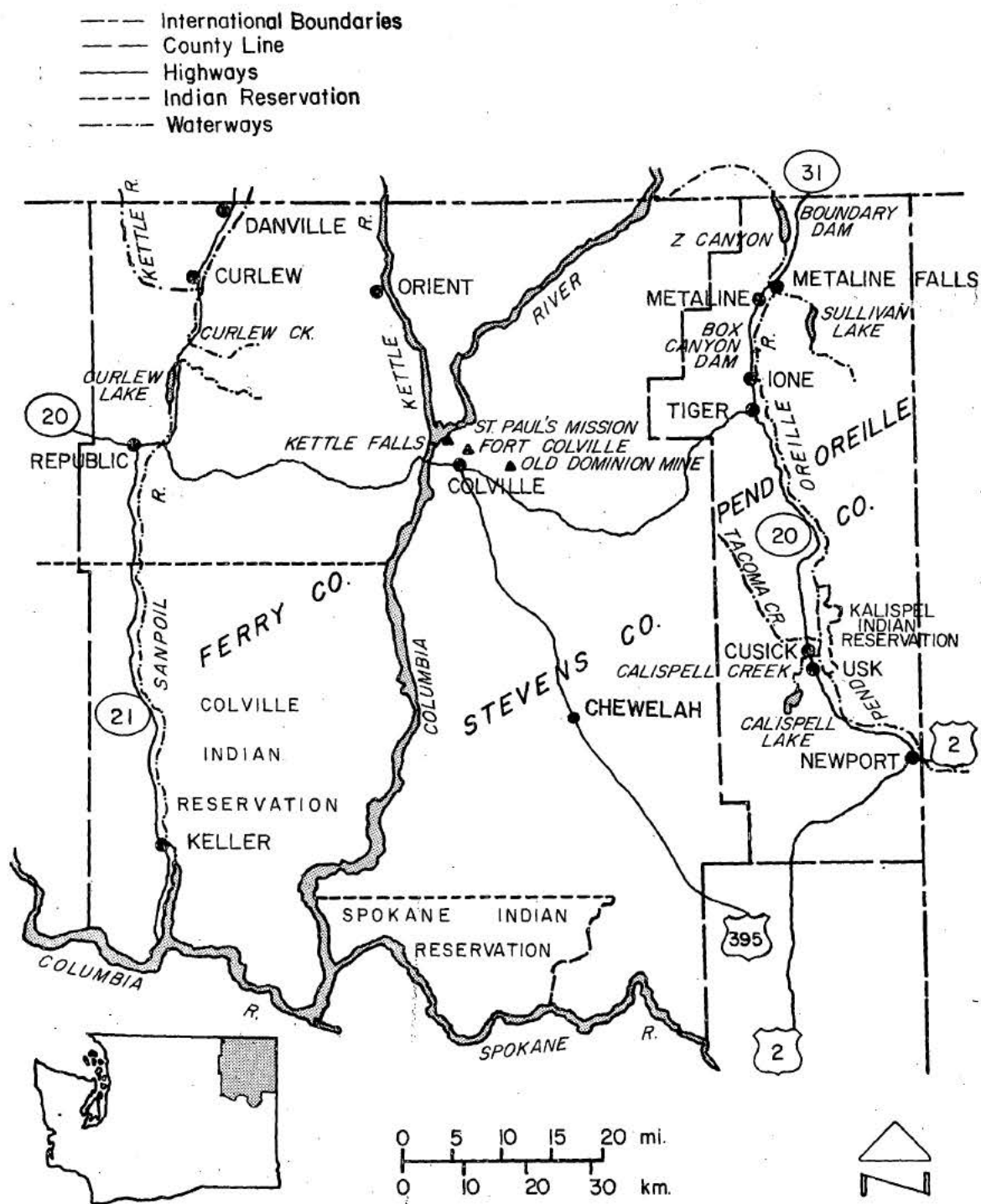


Figure 9. The northeastern Washington counties of Ferry, Stevens, and Pend Oreille.

The discovery of gold in the Colville area is credited to Angus MacDonald, Chief Trader of Fort Colville, in 1852. Suspecting gold in the region, MacDonald sent men up the Columbia River to prospect, and within a few days they returned with several ounces of gold from the mouth of the Pend d'Oreille River (Fuller 1931:304). The rush for gold began in the summer of 1855. "Business was poor on the Coast at the time and consequently a considerable number of people took part in this movement (Fuller 1931:304-305).

"During the summer and fall of 1857, gold was found on the upper Fraser River by miners who came mostly from Washington and Oregon. When they ran out of provisions, they had to return to Washington or go to Victoria, and they brought the news of their rich finds. The Fraser River discoveries well nigh depopulated some of the Coast towns, while others experienced a temporary growth, as shiploads of miners from California arrived. Some of the mining counties in California lost a third of their population. The number of miners who went from California to British Columbia in the summer of 1858 is estimated at twenty-three thousand by sea and eight thousand by land. The rush receded in the summer of 1859, when the strangers were confronted with the great rise of the Fraser in the warm months and learned of the long interruption in mining operations which this condition compelled" (Fuller 1931:305).

Most of these early efforts of mining involved extracting placer gold from sand bars along stream beds, an easy process which exhausted the deposits rapidly. "After the placers played out, capital investment and heavy machinery aided miners in their search for quartz veins containing precious minerals" (Holstine 1978:25). The following is a listing of placer gold localities in Stevens and Ferry Counties (Hunting 1955:30-31).

Ferry County

Bridge Creek
Columbia River Bars
Covada District
Danville area
Kettle River Bars
Republic
Sanpoil River

Stevens County

Columbia River Bar
Kettle Falls
Kettle River Bars
Marcus
Meyers Falls
Northport District
Orient

"The great lode mining industry of the Inland Empire began with the discovery of the Old Dominion mine, about seven miles from Colville ...the Old Dominion...established Colville, where there had previously been little beside a brewery and two stores" (Fuller 1931:307). The

gold, silver, and lead proposition of the Old Dominion Mine was discovered in 1885 by A.E. Benoist, W.H. Kearney, and E.E. Alexander, six miles east of Colville. The mine produced over \$500,000 in silver, lead, and gold during the same year of discovery (Anonymous 1904:120).

By 1903, hundreds of claims and prospects throughout Stevens County were in various stages of development. While placer mining continued, lode mining increased in extent and scope.

In 1903, one of the most important mines in Stevens County was the Cleveland, five miles south of Wellington in the Huckleberry range. It consisted of a rich deposit of silver and lead. Among the companies developing lode mining in the Colville Valley and other parts of northeastern Washington were the Buck Mountain Mining Company, Vulcan Gold Mining and Milling Company, Silver Queen Mining and Milling Company, Columbia River Gold Mining Company, Northwest Development Company, and First Thought Mining Company, Ltd. (Anonymous 1904:122-126). Mining districts at this time included the Kettle Falls District, with the Acme Mine six miles south of Kettle Falls on the Columbia River; the Vulcan and Fannie properties on the west slope of Rickey Mountain, 2½ miles south of Kettle Falls; the Silver Queen group of mines, 2½ miles from Kettle Falls on the Columbia River; the Metaline District; the Springdale District embracing southern portions of Stevens County, which included mines in the southern portion of the Huckleberry range; the Chewelah District; and the Northport District.

Specific mines that interviewees in the project region had worked in or believed to be important included the following:

Belcher	Quilp
Ben Hur	San Poil
Copper Lakes	Sheraton
Empire Creek	Surprise
Golden Harvest	Vanstone
Knob Hill	West Fork
Lone Pine	Wolf Camp
Pearl	

(Walter I,B,5-10; Fairweather I,B,3-7:30; 7:30-10; I,A,4:30-7; Kotzian I,A,43-45).

Pioneer resident Charles Barker stated that placer mining in Pend Oreille County began in the late 1850s (Barker 1979a:38; Martin and Thompson 1965:11). This mining took place at Monument Bar (Harvey placer) and at the mouth of Slate Creek (Martin and Thompson (1965:11). Harvey placer was named for Carl C. Harvey who, Barker reported, had come into the county in 1868 to mine the placer deposits on the bar

(Martin and Thompson 1965:11). Harvey lived in the area until his death in the 1920s and, thus, was known to some interviewees. His grave has been marked by local residents and remnants of his cabin also remain. Barker also indicated that Chinese miners worked placer deposits along the Pend Oreille River and built a camp about two miles north of present-day Metaline Falls; this camp became known as Chinamen's Bar (Barker 1979a:39). Oral tradition indicates that a house built by the Chinese was located near that site, but no remnants seem to remain. Informant Lin Kinney believed that portions of the ditches used in their placer workings can still be located (Kinney I,A,12-18:30). Very little is known of early Chinese miners in the county. For that matter, little is known of any of the early placer miners, which is no doubt due to the relatively meager gold deposits and the fact that most miners left the area for richer fields to the west and northwest.

The nature of the gold deposits in the county probably had a major effect on this exodus. It is believed that the placer deposits along the Pend Oreille River were in "gold-bearing glacier debris brought in from British Columbia by the lake of continental ice which once occupied the canyon" (Martin and Thompson 1965:12). Thus, the rich lode veins which were subsequently sought in any placer area were not to be found here. As a consequence, prospecting for placer and lode gold in the county has been limited. The prospects for rich gold deposits increased in about 1940 when the Z Canyon Gold Dredging Company formed in order to remove placer deposits below Z Canyon (Barker 1979a:39). However, this method proved only marginally successful. The owners then tried a suction pump which only made expenses (Barker 1979a:39), and, as a result, the project was abandoned.

The real mineral wealth of Pend Oreille County lay in its deposits of zinc and lead. Although these deposits were known to exist in the Pend Oreille valley as early as 1869, it was not until 1928 that large commercial ore bodies were discovered (Martin and Thompson 1965:12). However, mining of lead and zinc had its beginnings in the mid-1880s. Most of the major deposits were found in the Metaline Falls area. As a result, this area, which covers approximately 400 square miles, was organized into the Metaline District (Fulkerson and Kingston 1958:2). This district has also produced gold, silver, and copper along with lead and zinc.

The production from Pend Oreille County between 1902 and 1956 was \$75.1 million. Stevens and Pend Oreille Counties have supplied nearly all the lead and zinc output in the State of Washington (Fulkerson and Kingston 1958:1). The Pend Oreille, Grandview, and Metaline mines have been responsible for the bulk of this output in Pend Oreille County. Below is a list of several other mines in the Metaline District

as of 1956 (Fulkerson and Kingston 1958:48-51):

Diamond R.	Poorman
K.K.	Rocky Creek
Lead Hill	Sampson
Lead Queen	Shallenberger
Lone Star	Sterling
Lucky Strike	Sullivan
Mohawk	Velvet
Oriole	Z Canyon Group

The Metaline District has also long been known for its limestone deposits. From a small discovery of these deposits, F.G. Jordan began producing cement in 1901. This site was located just north of the community that was to become known as Cement (Pend Oreille County Rural Development 1969:Mining 7). Jordan's venture only lasted a few years, however, and cement production was not renewed until 1911 when the Inland Portland Cement Company established a plant in Metaline Falls. Later, this plant became the Lehigh Portland Cement Company. The output of this company from 1959 to 1969 was 645,000 barrels annually, 2 percent of national production during this period (Pend Oreille County Rural Development 1969:Mining 9). Power for the Inland Portland Cement Company was produced from a hydroelectric plant on Sullivan Creek (Dinger 1979:23).

Mineral deposits were also found in the southeastern corner of Pend Oreille County, thus necessitating the formation of the Newport District. Only minor mineral production was reported in this area (Fulkerson and Kingston 1958:2), although the Bead Lake Mining Company did build a concentrator and took out some high-grade silver, copper, and gold (Barker 1979b:81). Interviewees George Davaz and Erle Hupp had visited this mine when it was in operation and remembered that there was also a sawmill at the site as well as a bunkhouse, cookhouse, and other frame buildings.

Copper has been found in the Cooks Lake area by the Newport Mining Company and near Fan Lake, Kings Lake, and CCA Mountain (Barker 1979b:81-82). Prospecting has also taken place and claims established on Cooks Mountain, and the East branch of LeClerc Creek (Barker 1979b:81). The Kalispel and the Bornite were mines in this area mentioned by oral informants (Davaz I,B,24:30-27;29:30-31:30). Fulkerson and Kingston (1958:47) listed the Bead Lake, Eagle, and Gray Goose mines in the Newport District as of 1958. A report of the Pend Oreille County Rural Development (1969:Mining 5) group in 1969 stated that the Pend Oreille Mines and Metals Company was the only operational mine in the county, although some new small scale attempts were being made.

The rise in the value of metals, especially gold and silver, has prompted a renewal of mineral exploration in Pend Oreille County. In recent years, an increase in exploration has also centered on uranium and gas. This new interest in mining is not only true of this county, but of many areas in the Pacific Northwest.

New exploration is also going on in Ferry County today. This county has been influenced by many of the same historic events that shaped the development of mining in other regions of the project area. Mining began in Ferry County when the north half of the Colville Indian Reservation was declared open in 1896 to mineral entry. "...the state of Washington was destined to present to the world a new mining district which, through its peculiar mineralogical conditions and rich developments, would command attention from every quarter" (Anonymous 1904:404).

Many claims were located in the area of Republic, then known as Eureka, and a considerable amount of gold was removed (Fuller 1931:307). The town of Eureka grew up overnight on what is now Granite Creek. However, when the miners who christened the site Eureka became aware that a post office near Walla Walla had the same name, it was changed to Republic after the local Republic Gold Mining Company (Holstine 1978:30-31).

In 1898, the south half of the Colville Indian Reservation was opened to mineral entry and the rush was a "stampede of vast proportions." Within one week after the opening of the area it was estimated that 5,000 mining claims were located in the south half--more than 400 men crossed the line from Republic (Anonymous 1904:407). Production in the south part of the reservation was small (Fuller 1931:307). "In one seventy-square-mile area under his jurisdiction, Captain John Webster, agent in charge of the Colville Indian Reservation, could find only two paying mines among several staked out. The 'mining' rush to the 'North Half' was often a land grab allowing 'miners' to occupy, and thereby be prepared to file on, choice land before the 'North Half' was thrown open to homestead entry" (Holstine 1978:30).

In the Republic area, mining companies were quickly organized to extract the gold from quartz. The Republic Gold Mining and Milling Company was organized in March of 1897 and active work was begun. The same company erected a 35-ton experimental mill, employing the petalin-Clerici process, in 1898. This method proved too expensive and the mill was abandoned. That same year a 100-ton mill was erected by the Mountain Lion Gold Mining Company (Anonymous 1904:405,430).

With the coming of the railroad in 1902 and 1903, operations increased (Luther 1980:n.p.). By 1904, 148 mining companies with such names as Tom Thumb Gold Company, Friend Gold Mining Company, Faithful-Surprise Mining Company, and Stray Horse Mining Company

existed in Ferry County having a total property value of \$879,296 (Anonymous 1904:437). Production was at an all-time high in 1911, with the Republic Mine as the largest producer followed by the Ben Hur, Insurgent, Lone Pine, Mountain Lion, Quilp, San Poil, and Surprise. During the post-1911 period, the number of producing mines was usually no more than ten. The Knob Hill Mine has been the only active mine since 1950 and is the leading producer in the Republic District (Luther 1980:

KANIKSU NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

During the gold rushes of the 1860s, the Kaniksu National Forest area (Figure 10) was generally a thoroughfare for miners moving on to rich diggings. No doubt an occasional miner must have stopped along the Wild Horse Trail to pan gold in the Pack River, Deep Creek, or the Kootenai River. Yet, if he did, we have yet to find record of it and this lack of information may attest to the lack of placer gold deposits along the route. Miners also made their way through the area via Rathdrum and on to the southern end of Lake Pend Oreille where they were able to catch a steamboat to the northern end of the lake, thereby shortening their route to British Columbia or Montana.

It was not until the late 1880s that valuable minerals were discovered in the Kaniksu National Forest area. At that time, discoveries of gold, silver, lead, and copper were made in the Lakeview area at the southern end of Lake Pend Oreille, and in the area adjacent to Upper Priest Lake (Savage 1965:3-4). Some of the rush to Lakeview area was a result of prospecting that had "splashed over" from the rich finds in the Coeur d'Alenes. Transportation to these mines had greatly improved over the days of the Wild Horse Trail. By this time, the Northern Pacific Railroad was completed from Spokane to Lake Pend Oreille and up the Clark Fork River. Passage from the railroad line to the mines was much the same as before; goods and people went by packhorse, mule, horse, or wagons.

The area around Lakeview boomed for several years. Interviewee Gordon Needham's father had lived near Lakeview trapping and farming before the gold rush period began and, when the influx started, laid out the townsite and sold lots. Stories of his experiences are in Needham's oral interview (Needham I,B,24-30; II,A,0-6) as well as in a family history included in Appendix D of the *Oral Traditions Overview*.

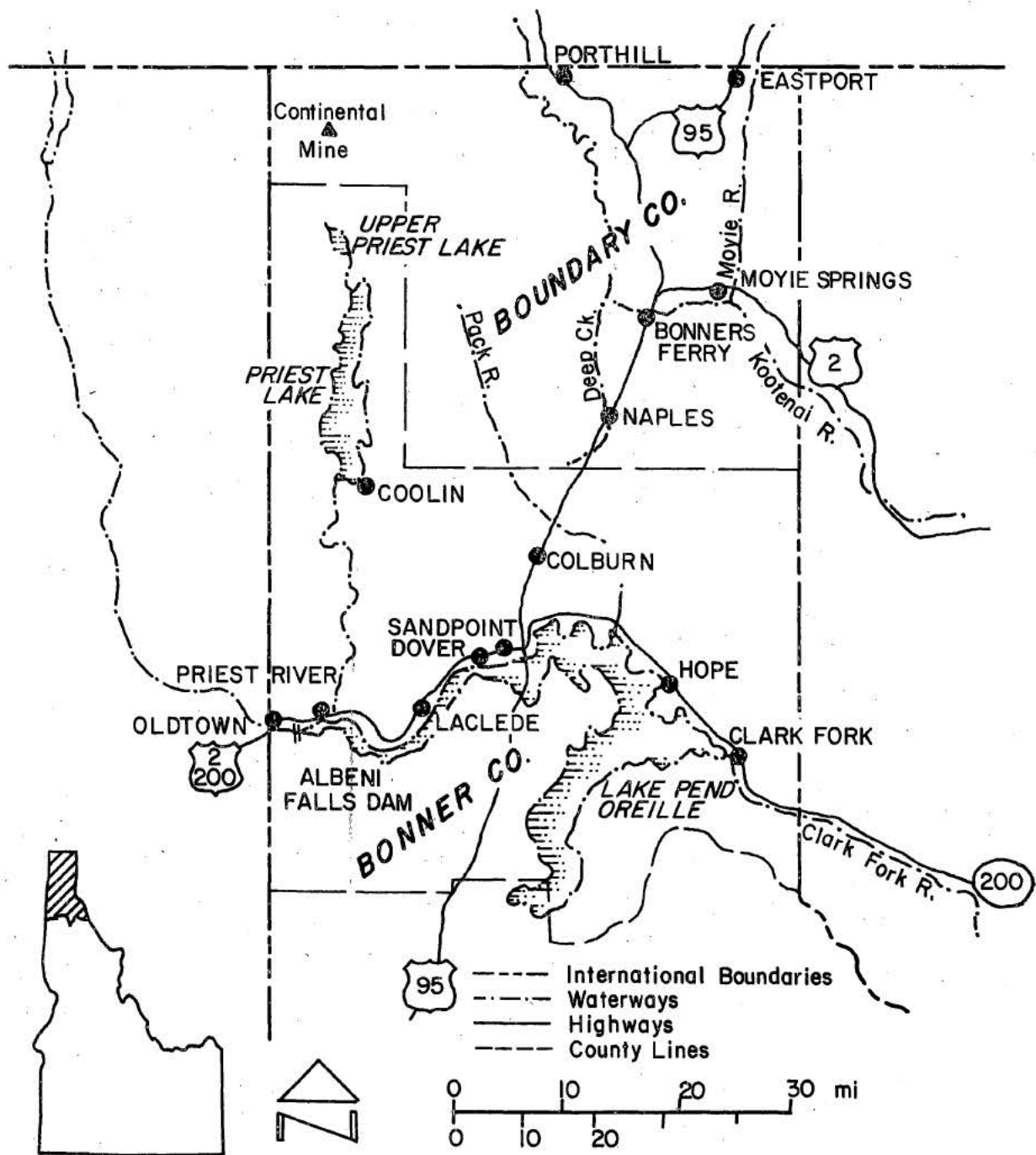


Figure 10. Bonner and Boundary Counties.

Closely following these Lakeview discoveries were those in the Blacktail Mountain, Talache, and Granite Creek areas. For a short time, the ore concentrate from these mines was shipped by steamer to the Panhandle Smelter in Ponderay at the northern end of Lake Pend Oreille. The smelter had its own transportation system via lake steamboats. Prior to the operation of this plant, concentrate had to be shipped to the railroad line and then taken to smelters in Tacoma, Washington, or Helena, Montana.

The new decade also brought about the establishment of two limestone quarries in the Lakeview area which were operated by Portland Cement Company Limited (U.S. Forest Service 1971). This area was also known for its marble deposits.

Mining in Boundary County was located on Tungsten Mountain; Bethlehem Mountain, where the Bethlehem and Tungsten Hill Mines were located; Miller Creek in Round Prairie, where the Miller Brothers Mine was located; the Bussard Mountain area; Buckhorn Mountain, where Buckhorn Mine was; Boulder Creek, where the remnants of the mining town and mine of Idamont were located; and Continental Mountain, where Continental Mine has been patented.

The Continental was the richest mineral discovery in Boundary County and was developed by the well-known entrepreneur, Alfred Klockman. His plans for the mine included a railroad which was to cover the 20-some miles from Porthill to the mine. This plan, made in the late 1890s, was altered when the railroad bed washed out. In its place, a road was built. Much of the labor force used to blast the rock cliff portions of this road were of Italian descent. The mine was in full operation by 1915, shipping ore concentrate to the Wallace-Kellogg area for smelting. By the 1920s, production had slowed, but it continued to produce through the 1930s and intermittently to the present. Interviewee Alvin Flory lived near the Continental for a few years, as his father worked for the mine. Flory could describe in detail the workings of the mine and the location of various buildings and other structures on the site (Flory III, A, 24-30-33:15; III, B, 0-11:15; III, B, 0-11:15). Another informant, Cy Higgenbotham, ran the mine himself in the 1940s, mainly reworking the tailings (Higgenbotham I, A, 30-34:30; I, B, 10-19).

The history of another Boundary County mining operation, Idamont, is just as interesting as that of the Continental Mine. In 1909, the Idaho Gold and Ruby Mine (now Idamont) was promoted by J.M. Schnatterly as a rich placer area. Schnatterly, according to oral informants, sold stock in the venture and also recruited miners, who would be paid with shares (Flory III, B, 17:15-23:30). Although millions of dollars were spent developing the Boulder Creek mining complex, very little placer gold was recovered, nor did quartz deposits pay out. The yields were of such low quantity that operations were halted in the late 1930s.

Following the tradition of other mining regions, mining districts were established in Bonner County. The Blacktail District included such mines as the B.R. and B., the B.F. and H., the True Blue, the Summit, and the Cumberland (Northern Idaho News 1905:30-33). One of the most important mines in the Lakeview district area was the Weber. The main mining operation in the Granite Creek area, east of Lake Pend Oreille, was the Minerva Group. This group included the Homestake and Nevada claims located between Granite and Falls Creeks (Northern Idaho News 1905:33). The Pine Creek District was located six miles north of the town of Priest River and included such claims as the Farmer Jones, the Campbird, and the Rose of Killarney Mines (Northern Idaho News 1905:29-30). Other discoveries were made north of Upper Priest Lake, along Cedar Creek, which was to become the Priest Lake District.

At the turn of the century, these mines were mainly producing lead and silver concentrates. Their output was in no way as rich as that of the Coeur d'Alenes. As a result, they did not operate on a large scale for very long.

The turn of the century also brought increased mining in the Hope/Clark Fork area. In 1905, a lead vein was discovered at the Daugherty project north of Clark Fork (town) near Lake Darling (Savage 1967:4). Between 1905-1923, prospects were made along Trestle Creek, Wellington Creek, and Howe Mountain (Savage 1965:4). In 1926, there was a flurry of excitement in the area when high grade silver was discovered at the Whitedelf Mine on the east end of Howe Mountain (Savage 1965:4). Today, the Clark Fork District still has potential, according to mining sources, but large capital is needed for exploration.

COEUR d'ALENE NATIONAL FOREST BLM - COEUR d'ALENE DISTRICT

Currently, the richest mineral discoveries in north Idaho are considered to be those of the Coeur d'Alenes (Figure 11). This area has yielded rich gold placer and quartz deposits and even richer, lead silver and zinc deposits. Gold deposits may have been recognized as early as 1860 by Captain Mullan and his men when they were constructing the military road through the area (Mullan 1863:31).

Normally, credit for the first discovery of gold goes to A.J. Prichard in 1881. Prichard's find was a placer deposit along the creek that bears his name. Although he was able to keep his discovery quiet until the next year, it did "leak" out producing a new rush in 1883-1884. As the rush developed, the town of Eagle sprang up. By the spring of 1884, there were 2,000 to 4,000 people in this new Mecca (Smith 1932:28). The area of placer claims began to expand as more and more miners poured into the area. Rich placers were located along Prichard Creek, Eagle Creek, Trail Creek, and Beaver Creek.

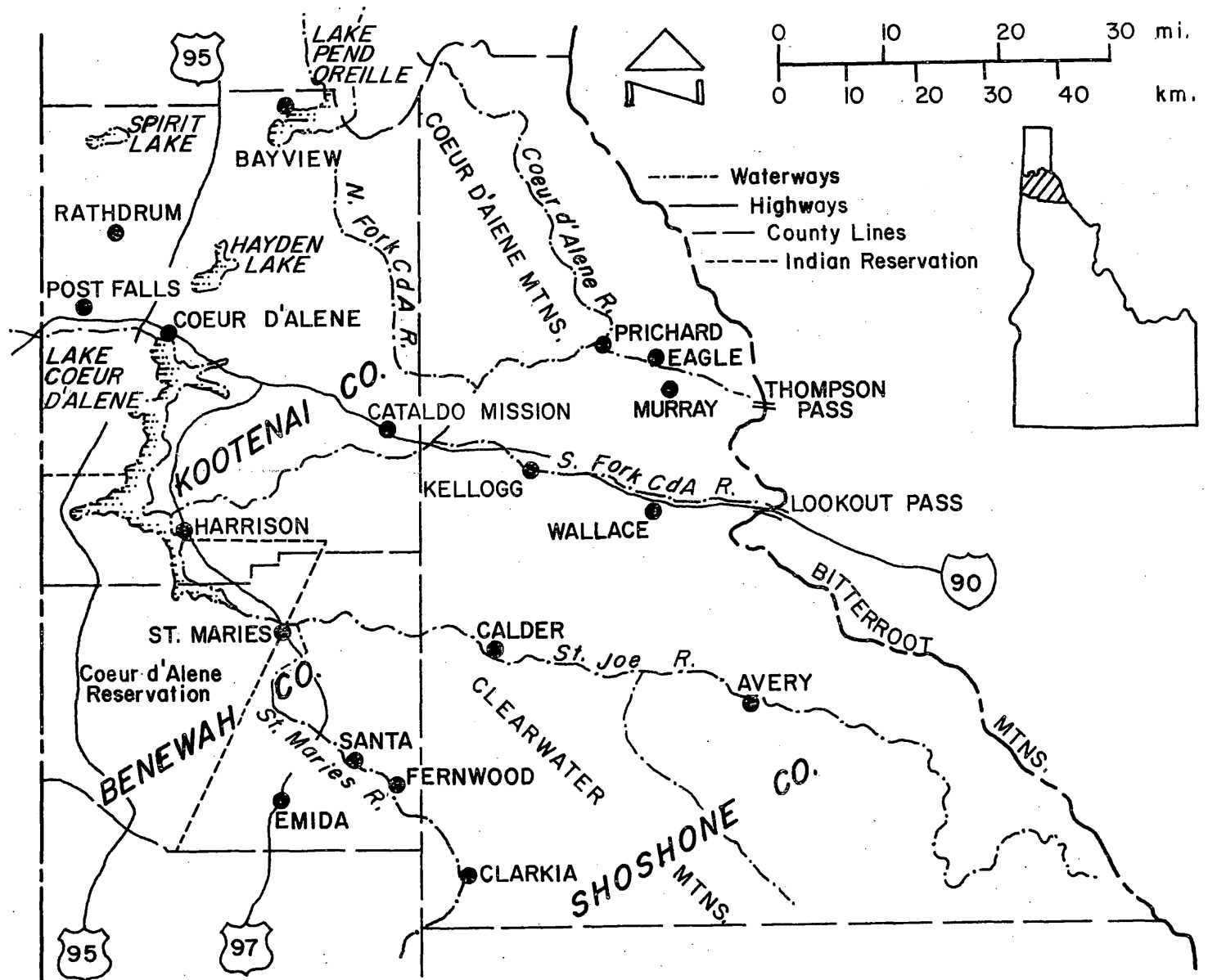


Figure 11. Kootenai, Shoshone, and Benewah, Counties, Idaho.

Workings along Prichard Creek extended for 12 miles, from Raven to the mouth of the creek and including 17 tributary gulches (Smith 1932:68). Since the main channel of the creek was too deep to easily mine, work was confined to the rims of the channel and the tributaries (Smith 1932:69). Some of the richest tributaries included Dream, Buckskin, and Missoula Gulches (Smith 1932:69).

A feature which Smith (1932:73-74) refers to as the "Old Channel Wash" also held placer deposits. It ran roughly parallel to and higher than Prichard Creek along its north bank. This feature appears to be deep gravel deposits from a prehistoric stream. It ran six to eight miles from the mouth of Bear Gulch to Eagle Creek where it ran into Daisy and Fancy Gulches. Water had to be transported to this channel to enable miners to work it. In 1886, a water system of ditches and flumes (some on trestles) were used to get water to the channel and gulches (Smith 1932:74-75). Water was then available in enough quantity to "clean up" many of the gulches along the way. Hydraulic mining was used to get to the gold in the channel wash between Dream and Missoula Gulches (Smith 1932:76). In 1900, most of the placer claims along Prichard Creek were bought by the Coeur d'Alene Mining Company, who later leased the land to the Yukon Gold Company (Smith 1932:78).

The Eagle Creek area was also the scene of placer mining. Rich discoveries were made in Daisy and Fancy Gulches. Potosi and Placer Gulches in the Trail Creek area were also especially rich. A number of aqueducts were built in this area to carry water to the diggings (Smith 1932:80). Smith (1932:78) states that one was 13 miles long coming from the head of Beaver Creek.

The Northern Pacific Railroad's transcontinental route made it much easier for miners to reach the Coeur d'Alene Mines compared to earlier mining areas. Miners coming from Spokane could take the train to Rathdrum and from there to Coeur d'Alene, where a steamer would take them to the Old Mission.

Several routes were available from the Mission to the mines. Horses or pack trains could be taken up the North Fork of the Coeur d'Alene River to Beaver or Prichard Creeks. From Prichard Creek, the route of the Evolution Trail could be taken to Eagle (Smith 1932:25). At times, miners and supplies were brought up the North Fork of the Coeur d'Alene River in shallow draft bateaux or dugouts (Hobson 1940:44). Another option was taking the route of the Mullan Road, cutting off near Kellogg to the Sky Trail over to Delta and Murray. The Jackass Trail also provided a route by leaving the Mullan Road three miles above Kingston and traveling over the divide to Beaver Creek and on into Eagle City (Hobson 1940:43). The full route of the Evolution Trail also included a detour from the Mullan Road, but at Evolution where the route passed over a ridge to the north and on into Beaver Creek. It followed Beaver Creek to Prichard Creek and from there to Eagle at the mouth of Eagle Creek (Smith 1932:24).

Many miners came from the east over the Bitterroot Mountains. Not only miners, but prospective shop owners, women, children, and gamblers came along mountain trails from Thompson Falls, Belknap, Heron, Trout Creek, Montana (Smith 1932; Hobson 1940). The trail from Thompson Falls came over Thompson Pass and into the upper valley of Prichard Creek (Smith 1932:25). Of the last three routes, the trail from Trout Creek proved the most popular. From the east, it came up the Trout Creek valley and over the Bitterroot Divide at an elevation of 6,000 feet and down the length of Eagle Creek to Eagle; a distance of 35 miles (Smith 1932:25). Because of melting snow in the spring of 1884, the popularity of this route lost out to the Thompson Falls trail (Smith 1932:27).

The life of these trails was short because the gold rush in the Coeur d'Alenes did not last long. Of course, during the winter of 1883-1884 you would not have been able to tell the gold seekers any such thing. Winter travel did not appear to be a problem since the hard-packed snow provided excellent pathways. Tent stations were even established along the way where one might buy a meal or find a place to sleep (Smith 1932:26). It has been said that the infamous Molly B' Dam came into the Coeur d'Alene country via one of these winter routes. There were no doubt many other routes taken to reach the gold fields in the Coeur d'Alenes; these were some of the more prominent.

Many towns were established as a result of the placer mining in the Beaver and Prichard Creek areas. One of the first was Eagle which was established in 1883. By 1885, it had lost much of its population and popularity to the "upstart" community of Murray which had been established the following year. Murray is located between Alder and Gold Run Creek on the north bank of Prichard Creek and was known as Murrysville or Murrayville (Smith 1932:48). Some of the other mining communities included Delta at the mouth of Trail Creek along Beaver Creek where the two main trails to Murray and Eagle converged; Littlefield, which was located two miles above Murray or Prichard Creek at the mouth of Battle Creek; Raven, which was also on Prichard Creek at the mouth of Bear Creek and close to the mouth of Granite Gulch (the Thompson Falls Road came through this town); Thiard was located on the south side of Trail Creek between Potosi and Placer Gulches and was called Myrtle for many years (Smith 1932:60-63).

The placers in this area played out by 1890, and these towns faded. Although some of them still remain today, they do not boast near the population or business they did during the rush years. This situation relates the nature of placer deposits. They are very unstable because they do usually play out within a few years. However, gold prospecting

did go beyond just placering. Quite a few quartz mines were established in the same vicinity as the rich placer deposits. The height of operation for these mines was in the 1890s. Some of these mines included the Golden Chest, the Daddy, the Yosemite, the Occident, the Treasure Box, and the Granite. By 1900, the operation of these mines had been drastically reduced. This curtailment was due, in part, to the rich silver, lead, and zinc discoveries along the "south side" and the movement of people to these areas, a decrease in the proportion of gold in the ore taken from the mines, and absentee owners (Smith 1932:90-91).

An interesting aspect of the Coeur d'Alene mining area was the absence of Chinese in the diggings. Traditionally, the Chinese reworked placer deposits that had been abandoned by Euroamerican miners; however, this was not to occur in the Coeur d'Alenes. Early on, the miners met and decided that they wanted no Chinese in the area and they made it known. Although some Chinese did work on the Belknap wagon road (Smith 1932:37) and as cooks here and there, they stayed away from the gold. In 1888, some miners brought Chinese in to work the weakening placers but they were quickly rejected. This ban continued to be effective throughout the Coeur d'Alenes.

The shift in emphasis in the Coeur d'Alene area went from gold to silver, lead, and zinc deposits in the late 1880s. By 1884-1885, many claims had been filed for mines in Canyon Creek, Ninemile Creek, and along the South Fork of the Coeur d'Alene River. By the 1890s, the towns of Wardener, Osburn, Kellogg, Wallace, Gem, Burke, and Mullan had post offices (Fee 1968:4-5). These communities were being supported by nearby mines or were trade centers at the crossroads of transportation routes. Although most of the silver, lead, and zinc production was, and still is, along the South Fork, there were some discoveries in the Murray area. Some of these were the Jack Waite, Monarch, Bear Top, and Crystal Lead (Ojala 1972:9).

Since the beginning of mining development in the 1880s, the production of silver, lead, and zinc has become one of the dominant economic forces in the Coeur d'Alenes or Silver Valley. However, the development of this industry has not been without its troubles. One of the most notable was the labor unrest of the 1890s. Unions were forming in the mining communities of the Coeur d'Alenes as early as 1886. These unions were successful in having a uniform daily wage of \$3.50 established for miners. Partly in response to this wage raise, and to the unionization of the mines, mine owners and managers formed the Mineowners Protective Association in 1891.

In the same year, the railroads raised their freight rates which affected the shipment of ores to the smelters in Helena and Omaha. In response to this action and the low price of silver, the mineowners reduced the daily wage for miners. The unions objected and countered with a call for the higher wage. In addition, they wanted to cut the monopoly of the company-owned stores and boarding houses, to secure safety measures, and to "obtain" the benefits common to union management today (Sloane and Sloane 1970:275). The mineowners responded to these demands by closing the mines ostensibly because of the high freight costs. This shutdown occurred in January of 1892.

In March, the Mineowners Association managed to have the high freight rate reduced. However, they did not raise the miners' wage in response to the freight cost decrease. The miners would not return to work at the reduced rate. In an effort to get their mines under production again, the mineowners brought in nonunion workers in late April. This action aroused the miners and their sympathizers in Burke, who resolved to throw the nonunion miners out of town (Beal and Wells 1958:II,77). They did just that. In May, the mineowners brought more miners in, but this time they were under guard. By June 1, the mines were open. On June 4, Idaho Governor N.B. Willey visited the troubled area and declared that the miners should cease interfering with the mineowner's operations and threatened to proclaim martial law if they did not. On June 25, he requested federal troops to intervene. The miners seemingly stopped and the number of nonunion miners rose to 500. The normal number of miners was 4,000 (Beal and Wells 1958:II,77). The president refused to send troops because there had been no disturbance to warrant it.

Frustrations and tensions grew on both sides. Then, the miners discovered that the secretary of the miners' union was a Pinkerton spy who had been hired by the Mineowners Protective Association. The union miners were enraged, dynamited the old Gem Mill at Burke, took a non-union mining crew captive, and demanded that the canyon be cleared of all nonunion miners. The mineowners reluctantly agreed on July 9. On July 12, the President ordered federal troops from Fort Sherman and Missoula to the area. From July 12 to November 18, martial law ruled the Coeur d'Alenes. Union miners and sympathizers who were thought to have had a hand in the troubles were confined in "bull pens" in Wallace and Kellogg. These large, outdoor prisons were used because the jails could not accommodate the greater portion of the valley population that had been arrested as a result of the union's activities.

After martial law took effect, non union miners returned to the area and the mines were able to begin operations again. Several union leaders were convicted in trials that followed and the valley settled into relative quiet, although bitter feelings remained. When the Depression of 1893 hit, most of the mines in the area were forced to close. In the same year, the Western Federation of Miners was organized. In 1894, an agreement was signed between the union and the mineowners which established a \$3.50 daily wage and no discrimination against union miners.

By 1899, all of the mines except Bunker Hill and Sullivan were unionized. Wanting recognition from the mine, the radical union organization dynamited the Bunker Hill and Sullivan concentrator (on April 29, 1899). As a result, Governor Steunenberg requested federal troops to restore order to the area. On May 2, troops arrived from Spokane and on the third, he declared martial law. The bull pens of the 1892 troubles were reconstructed to accommodate the masses that were arrested over the dynamiting.

In addition, State Auditor Bartlett Sinclair developed a system whereby miners in the Coeur d'Alenes had to receive permits from the state to enable them to work. These permits were to certify that the miner was not a member of a union, or, if he was, he had not been involved in the dynamiting. If a miner was a member of a union, he was required to quit and was not allowed to rejoin (Beal and Wells 1958:II,112). Unions all over the country were up in arms over this permit system.

The state brought action against the union on conspiracy charges. Union Secretary Paul Corcoran received a 17-year sentence, two years of which he served. Federal charges were brought against 36 men for interfering with the United States mail because the train they used to haul their dynamite had mail sacks aboard. Ten of these men were convicted and sentenced to two years in San Quentin. Idaho's Governor Hunt brought an end to the Coeur d'Alene mining war by ending martial law on April 11, 1901. Soon after, he pardoned Paul Corcoran.

Access to the silver, lead, and zinc mines improved in just a few years from the 1883-1884 gold rush days. In 1886, a branch of the Northern Pacific Railroad was built from Hauser Junction to Lake Coeur d'Alene to the town of Coeur d'Alene. In 1887, a narrow gauge railroad was built to connect the steamboat to Burke. By 1890, the Northern Pacific Railroad had also extended its track from Missoula to Wallace. Just prior to this time, the Oregon Washington Railroad and Navigation Company built a track from Harrison on Lake Coeur d'Alene to Wallace, and extended it into Burke and Mullan. The construction of these railroads was vital to the expansion of the Coeur d'Alene Mining District. They provided this area with easy access to smelters and markets for their ore. It also enabled the mines to bring in new equipment faster and more economically.

Although placer mining seemed to have come to an end by the beginning of the twentieth century, there were two short renewals. These efforts incorporated mechanized placer mining in the form of dredging. In 1902, Mascot Gold Mining Company acquired the townsite of Delta, on Beaver Creek, and began dredging operations. In the early 1920s, the Yukon Dredge Company dredged Prichard Creek. Beginning at Murray, the dredge worked its way downstream and back again leaving the distinctive rows of rock in its wake (Smith 1932:59). An average annual take of \$15,000 in gold was recovered from the creek by the dredge (Smith 1932:99).

Since this time, most placer mining has been limited to individuals working the once rich creeks. There has been an increase in this activity in recent years with the higher price of gold. The same has been true of quartz gold mining. Quartz mining also revived for a short time during the 1930s Depression, but declined again during World War II. Mining since this time has been limited and intermittent (Ojala 1972:8).

The mining of lead, silver, and zinc has proceeded continuously since its discovery in the 1880s, the exceptions being during times of labor unrest. Production has risen and fallen according to the economic conditions of the country, but overall production in the south side mines has been relatively strong and healthy.

Bunker Hill introduced its lead smelter to the Silver Valley in 1917. At this time, the majority of mines had been sending their lead concentrates to Tacoma or Helena smelters. Operation of the Bunker Hill smelter enabled mines such as the Star Group and Lucky Friday to have their ore smelted locally. This was, of course, an economic advantage to these operations.

The lead, silver, and zinc mines of the Murray area have not fared quite as well as the south side mines. Most operated intermittently until 1950 when they shut down (Ojala 1972:9). The main exception was the Jack Waite Mine, which operated steadily until the 1960s (Ojala 1972:9). By the 1960s, Idaho mines, principally the Sunshine, Galena, Bunker Hill, and Lucky Friday were producing more than half of the silver in the United States.

ST. JOE NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

The discovery of gold on a tributary of the Clearwater River in 1860 by E.D. Pierce began a rush to the interior and added new settlements to Idaho in an area where previously only the Spalding mission had existed among the Nez Perce population. At one time a prospector in California, Pierce entered Nez Perce country first as a trader of horses and cattle in 1852, then as a miner in search of gold in 1860 (Avery 1977:296). Pierce discovered gold on Orofino Creek (Figure 12) in spite of military opposition to his presence which "feared a renewal of Indian troubles should there be an influx of miners on reserved territory..." (French 1914:26). A mining camp was established on Orofino Creek and miners entered the region despite Nez Perce opposition and military regulations. By the time a treaty allowed miners on the reservation, 300 individuals had already settled there (French 1914:27).

The boom towns of Pierce City, Elk City, and Florence developed quickly. By 1861, twenty-five thousand others were making a living supplying the miners. "Newspapers in Portland reported that farms in the Willamette Valley were suffering because so many farmers had left for the gold fields" (Avery 1977:297). Steamboat traffic up the Snake and Columbia became heavy, and two new steamboats were built to carry traffic as far as the mouth of the Clearwater where the town of Lewiston sprang up (Avery 1977:297).

Other discoveries were made on the Clearwater and Salmon Rivers. Though exhausted soon after 1900, the placer mines of central Idaho produced between \$30,000,000 and \$60,000,000 in gold (Fuller 1931:307). Gold was also discovered outside of the Orofino area, in what we know today as Latah and Clearwater Counties, though here the rushes were small and short-lived. The major area of mining in Latah County was the Hoodoo District in the Hoodoo mountains. Gold Hill of the Moscow Mountain range was also known for placer gold mining. Smaller areas of mining included Ruby and Burnt Creek districts.

"The first important discovery of gold in Latah County, then a part of Nez Perce County, was made by a Mr. Hoteling in Hoodoo Gulch in 1860. This gulch is located on the South Fork of the Palouse River about 15 miles east of the Gold Hill district...after having worked the placers quietly for a short time, the miners abandoned them for richer prospects in Montana. Nothing further was done in the district until 1870 when rich placers were found on Camas, Jerome, Boulder, and Gold Creeks" (Faick 1937:52). Lode mines in this area included the Mispah Copper Mine and Copper King. Lode mining does not seem to have taken place after the 1930s (Clayton 1934:2; Miller 1972:20).

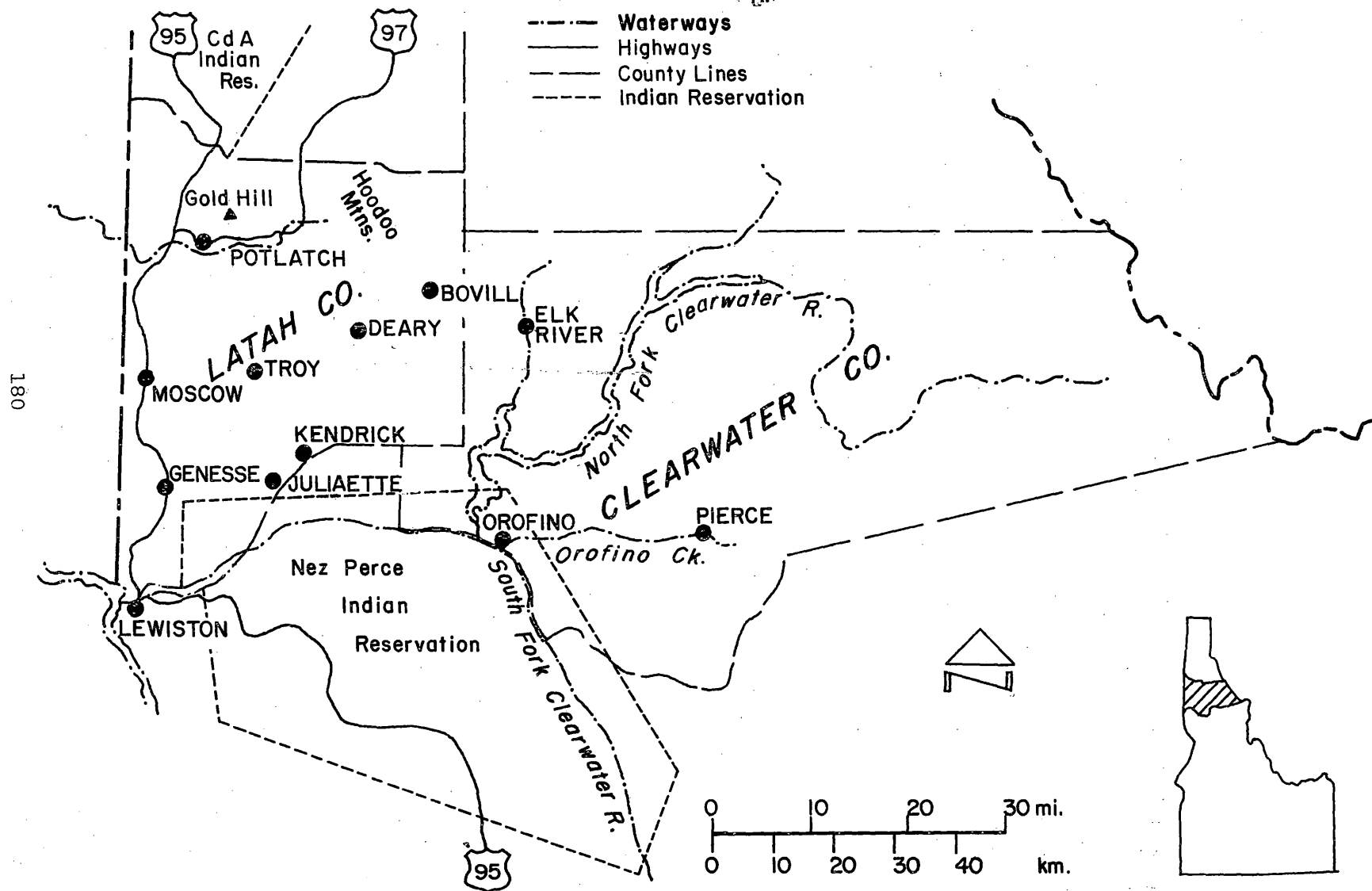


Figure 12. Latah and Clearwater Counties, Idaho.

In the summer of 1870, gold was discovered in the Gold Hill District on Damas, Jerome, and Gold Creeks which precipitated a small rush of miners into the region (Faick 1937:51). As placer gold was to be found in every streambed on Gold Hill, many of these were worked intensely at one time or another. The miners first skimmed the rich, but shallow, pay dirt before moving to new diggings. As the easily-mined deposits were exhausted, the miners turned their attention to removing deeper gravels with the use of hydraulic giants and other effective means of washing gravels (Faick 1937:51).

"As in most western placer districts, Chinese miners worked the lower grade gravels after the Euroamericans had skimmed the richer diggings. At one time there were about 120 men working the gravels of Gold Creek alone. Small towns developed at the head of Gold Creek near the Carrico Mine and on Jerome Creek at the mouth of Jack Gulch. The latter had a population of about 150, but nothing remains except a few abandoned buildings" (Faick 1937:53). Interviewees in the region indicated that even though the Chinese miners reworked diggings abandoned by the Euroamericans, there was still quite a bit of prejudice against them. Byers Sanderson related a story about Euroamerican miners who threw stones on "Chinamen's cabins" and then shot some of them (Sanderson II,B,11:30-13). At the same time, these Chinese prospectors were respected for their ability to locate ore and Sanderson told a story about a man at Palouse who kept a Chinese person there and took him into the Hoodoos every year to look for gold (Sanderson II,B,13-15:30).

In the Gold Hill district were the Carrico Mine located on the headwaters of Gold Creek in 1878, the Gold Bug Mine in Heath Gulch, located about 1882 and in 1937 owned by the Gold Hill Mining and Milling Company. The Daisy Mine, near Harvard, was opened in 1898 and in 1905 was reported operating at a profit. Other properties in the Gold Hill District included the Black Horse Prospect, the Last Chance Prospect, the Reservoir Creek Prospect, the Copper Ridge Prospect, the Gilliam Prospect, the Reservoir Creek Prospect, the Copper Ridge Prospect, the Gilliam Prospect and the Cassidy Mine--all with tunnels, shafts, and associated equipment needed for prospecting in any depth (Faick 1937:45-53).

The Burnt Creek Mining District was located about six miles southeast of Elk River on the slopes of Jericho Mountain. The discovery of gold in this area took place during the middle 1880s. Gold was found mainly in placers along Snipe, Burnt, and Swamp Creeks. A quartz lode, called the Jericho claim was discovered shortly before 1900. A lack of water created difficult conditions for working the placers, except during spring floods..."as in many gold mining areas, it was the rising cost of work and not a complete failure of the gold that was finally fatal to the mining effort (Miller 1972:26-28). Ruby Creek was another district mined for several years and included the Silver King, the Gold Eagle, the Gold Hunter, the King David, and the Goldendale (Miller 1972:29; Miller 1936:3).

Prospectors began to look for minerals in the St. Joe River Basin after Prichard's discovery of gold in the Coeur d'Alenes in 1883. An estimated 3,500 claims have been filed in the St. Joe drainage by prospectors who thought they had or could discover gold and as a result, cabins have been built everywhere. Prior to August 1, 1912, placer claims of 20 to 160 acres could be staked as long as there was one person per 20 acres. "Some people used their mining claims for homesteads, others used theirs for the timber, or even for setting up illegal saloons until they were forced to prove their claim to minerals" (Crowell and Asleson 1980:12).

Though not as rich in minerals, the area of Heller Creek near Red Ives Ranger Station yielded an estimated \$30,000 worth of gold and is still rich today. Miner Frank Heller staked his first claim in the area in 1909 and his last in 1933. During this time, he built several cabins, a blacksmith shop, a sawmill run by water and a log flume (Crowell and Asleson 1980:12).

Most of the claims in the upper St. Joe valley were placer and evidence of the use of water to sift off gravel from the gold remains today. Trenches can be seen on the hills above Heller Creek and the remains of a large house built by miners can be seen on Yankee Bar. On California Creek, a hydraulic nozzle was used for wash mining and eroded the soil off the hill. Above Wisdom Creek, a dam for sluicing was constructed (Crowell and Asleson 1980:12-13).

Dredge mining was also a method used in the area, though it is now a thing of the past. A state law passed in 1955 required a permit for dredging and was amended in 1977 to forbid "dredge or placer mining on the St. Joe River or any of its tributaries, except for the St. Maries River" (Crowell and Asleson 1980:13).

The largest number of lode claims and mines actually producing ore were located in the northeast end of the Avery district. Here there was a search for gold, zinc, copper, lead, and silver. The Bullion Mine was one of the earliest operations and the Bullion Road was the first wagon road into the area. The mine had a dam to generate power and two well-developed shafts. By 1914, the St. Lawrence, Richmond, Copper Age, Manhattan, and Monitor mines could be found in the hills of the Bitterroot Divide and reached by a wagon road. The Alice, Alpine, and Blad Mountain mines were located nearby on Kelly Creek (Crowell and Asleson 1980:13).

With the exception of the roads going to the Bullion and Monitor Mines, no wagon roads were built in the Upper St. Joe until the St. Joe Quartz Company constructed the first trail upriver extending 26 miles from the Sam Williams homestead through the Skookum Canyon. Cabins at Skookum Creek, Bird Creek, Malin Creek, and Haggerty Creek were also constructed. The company, however, went defunct before mining operations began (Crowell and Asleson 1980:14).

Mining in the St. Joe valley slowly died in the 1920s and revived briefly during the Depression, slowing again after World War II and picking up with the threat of recession in the 1960s. With new improvements in markets and mining processes in the early 1970s, over 3000 claims were filed in the valley (Crowell and Asleson 1980:14).

Potential for mining lode deposits still exists on Slate, Eagle, Bluff, and Gold Creeks. There is potential for quartz mining on Marble Mountain where the grade is higher than an existing quarry at Kettle Falls (Crowell and Asleson 1980:14).

LOGGING

Acquisition of Timber Lands

Before the turn of the century, the use of lumber in northern Idaho and northeastern Washington was limited to domestic and mining needs. Structures and fences were built by fur traders, missionaries, and early settlers. When placer camps were established, cabins were built on claims and buildings for commerce were constructed in towns. Mining operations involved lumber in the form of flumes, sluice boxes, and rockets (Hawley 1901:503).

At the turn of the century, a shortage of good white pine in the Great Lake states, sometimes resulting in the shutdown of mills, turned the attention of the logging industry to the west (Space 1972: 15). The white pines of Idaho and the abundant growth of trees in the northern part of the state attracted loggers and lumber companies. A number of developments made the timber lands both attractive and accessible to individuals and logging companies.

Railroad lines were quickly opening up the west. Northern Pacific Railroad, connecting the west coast and Inland Empire with the eastern and midwestern markets, reached Spokane in 1881. During the early 1890s, Great Northern Railroad completed its transcontinental line which also crossed northern Idaho, and the Milwaukee Railroad was to follow in 1909. A number of local railroad lines further opened the area, including the Milwaukee's main line down the St. Joe and a branch line from St. Maries to Elk River. Corbin's narrow gauge to Wallace, Mullan, and Burke in 1888, and the Oregon Railroad and Navigation Company's line around the southern end of Lake Coeur d'Alene to Wallace in 1891, also improved accessibility to the area (Strong and Webb 1970:5).

A number of markets for lumber were also expanding. Agriculture and fruit-growing industries required lumber for shipping, harvesting, and storing products. Mining required vast amounts of timber and future railroad construction needed lumber in the form of crossties (Strong and Webb 1970:6).

Much of the area's timber land was still in public domain, not yet having been withdrawn for forest reserves, power sites, military reservations, or other public purposes. Though some land had been acquired by railroad companies and state government, much still remained available.

Railroad companies had acquired large amounts of acreage through grants offered by the federal government as a means of inducing railroad expansion. The company was expected to sell land to help finance construction and stimulate settlement. In most cases, agricultural land was sold by the companies early and only inaccessible, often heavily-timbered land, remained to be sold. Northern Pacific Railroad sold much of this timber land to large logging concerns (Strong and Webb 1970:30-31;7).

When a territory became a state, federal grants of land from public domain were given to the state to sell or use in support of schools. Originally, these pieces of land were sections 16 and 36 of each township of 36 sections. Often these sections were already withdrawn and the state was forced to pick land elsewhere. The state of Idaho became custodian of nearly four million acres in Idaho, much of which was forest land with timber which could be sold for revenue (Strong and Webb 1970:8).

Timber land was also available under the Homestead Act of 1862 which opened land in public domain for agricultural use, and the 1906 Homestead Act in which lands of the forest reserves favorable for agricultural development could be homesteaded. A great volume of marketable timber existed on these tracts. The Timber and Stone Act of 1878 allowed individuals to acquire title to 160 acres of timber land in public domain for its timber and stone which were to be used for domestic and mining purposes (Strong and Webb 1970:8).

A number of individual claimants sold their land to logging companies, as most of the land acquired under the Timber and Stone Act and Homestead Acts had poor accessibility or was located in rugged areas making it difficult for individuals to harvest the forest products practically. Often, only large companies could afford such undertakings. Many homesteaders or individuals working for the logging industry acquired land for the express purpose of turning it over to logging companies. This practice appeared to be most prevalent in the Latah/Clearwater Counties area where oral history informants indicated that almost all timber claims "eventually fell into the hands of lumber companies."

"Now some of them had hopes of clearing the land and a lot of them did clear it, but a lot of them took it merely to get the timber. They took it and after they took the homestead and got title to it, then they sold it to the timber companies" (Space I,A,5:45-7).

Other interviewees believed that the companies actually located the lands that had the best timber and then asked settlers to acquire these parcels, grubstaking them to do it. Then when these people had proved up, the company would pay an additional sum for title to the land. There were differences of opinion among informants over whether or not these practices were legal, although one informant related a story about a Lewiston banker who was sued by the government for hiring people to take claims. This man was convicted, but then pardoned because the practice was so common (Space I,A,8:30-11). According to documentary sources, people who refused to sell their parcel of land to logging concerns might be terrorized by claim jumpers (Sundel 1979:4), although no oral interviewee mentioned such threats.

Gypos and Logging Companies

In general logging in the Northwest, at least by 1913, was highly specialized requiring a large number of skilled men, among whom were Native Americans, Swedes, and Norwegians (Bryant 1913:431-432).

Early loggers could work for a logging company as permanent employees or as contractors, also known as gypos. The gypos would contract with the companies for certain specific jobs, such as skidders or sawyers. Whereas permanent employees usually lived in company camps, gypos provided for their own room and board (Barton 1980:42).

According to one logger, the war brought in extensive gypo business, after which almost everything was contract piece work (Russell 1979:105).

Tools of Logging

Tools of logging in the Inland Empire were similar to those used by loggers in other parts of the United States and Canada. Several types of axes were used by the logger. The broadaxe was used for hewing timbers, crossties, and similar work. The felling axe was used for "felling, log making, swamping, and other chopping work" (Bryant 1913:72). It was part of the code of loggers in the project region that double-bitted axes were to be used at all times and a newcomer who carried only a single-bitted axe was the subject of derision (Bill Whetsler tape by Boswell, Bonner County Historical Society Collection).

"Saws were made in variety of lengths and widths of blade and in numerous shapes and patterns of teeth to meet special requirements and to conform to the preferences of certain localities" (Bryant 1913: 74-75). For small- and medium-sized timber a 6- to 6½-foot saw was commonly used, while for the fir timber of the Pacific Coast, the saws ranged in length from 8 to 10 feet. Arrangement and kinds of teeth on a blade varied with the types of trees to be cut (Bryant 1913: 74-75).

It is interesting to note that in 1913 power-driven tree felling machines were not yet used in the woods. "Machines of various types have been patented and offered for sale but they have not proved of practical value...devices such as drag saws and crosscut saws operated by steam or gasoline power have been devised, but they have all been too heavy and bulky for transportation in the forest. Their weight is not only a handicap in getting the machine around through brushy woods and over rough bottom, but also prevents their rapid removal from the vicinity of falling timber where they are continually subject to damage" (Bryant 1913:78-79).

Gasoline powered chain saws were first used in the Panhandle area in the late 1940s according to oral history informants (Barton 1980: 43), although at least one person recalls 1952 as the first year he could remember chain saws being used in the woods. At that time, there was still a filing shack and a man to file crosscut saws in most camps (Russell 1979:132).

Wedges were an essential feature of every faller's and logmaker's equipment and varied in size and weight with the work for which they were used, the pattern being considered largely a matter of individual choice. Felling crews in the Northwest usually carried two long and three short wedges, while logmakers carried five short ones. Wooden mauls and sledges were used to drive the iron wedges and were usually made by the camp blacksmith (Bryant 1913:81-82).

Spring boards, used only in the Northwest, served as platforms on which notchers and fallers stood to perform their work (Bryant 1913: 82).

The kilhig or sampson was used as a lever to aid in directing the fall of a tree. "It consists of a pole 3 or 4 inches in diameter and from 8 to 16 feet long, either sharpened or armed on one end with a spike" (Bryant 1913:83).

The peavey, made of a wooden handle and an iron hook of several possible types, was used as a lever to handle logs and was "an indispensable part of a logger's equipment" (Bryant 1913:84). Cant hooks were used much like a peavey, but employed more around mills and in handling sawed timber rather than in handling logs (Bryant 1913:85).

Methods of Logging

According to one writer: "Logging is preeminently and fundamentally a problem of transportation, one of moving a bulky and heavy product of the forest--logs--from the stump to the mill for further conversion with the least possible financial outlay" (Brown 1936:1). Logging operations involving the problem of transportation are (1) skidding, or the minor transportation involving the movement of logs from stumps to where they can be transported further by water, animal, or rail, and (2) log transportation, which involves the major transportation of hauling logs from skidways, landings, or log decks to their destination (Brown 1936:1; Bryant 1913:145,230). Skidding or movement of logs involved such operations as hand logging, horse logging, steam donkeys, and later, tractors. Chutes often assisted in getting the logs to an area where they could be transported further by flumes, log drives, forest railroads and later trucks--the actual transport of logs.

Though horse logging, chutes, and river drives were often used in conjunction with one another early in the century as tractors and railroads or tractors and trucks were used later, the combination of methods of moving and transporting logs varied greatly with terrain, availability of timber, and time period in use. For these reasons, descriptions of methods and techniques of logging have been roughly divided into (1) movement of logs: hand logging, animal logging, power and cable logging, chutes and tractors, and (2) transport of logs: flumes and sluices, log drives, railroads, and trucks, followed by a general chronological discussion.

Movement of Logs

Hand Logging

Several methods were employed to move logs from stumps to where they could be transported further by water, animal, or rail. Hand logging, or the movement of logs by hand from stumps to a point where they could

be reached by animals was practiced on the Pacific Coast. Trails were cleared down the slope and logs were felled on these slopes near some driveable stream, then rolled into the water and transported to market (Bryant 1913:145-146).

Animal Logging

Animal logging, the transportation of logs with animals without the use of vehicles was called snaking and was practiced in many parts of the country either "to take logs from stump to a skidway or to transport them for longer distances to a stream, railroad,, chute, or other form of long-distance transport" (Bryant 1913:146). Logs were taken over crude trails for short distances or skid roads for long distances by teams of horses, mules, or oxen. The number of animals depended on the weight of the timber handled and the condition and grade of the path. Skid roads built for animal snaking in the Northwest were carefully located, stumps removed, cuts and fills made, and the roadbed leveled so that a desirable grade was secured. Skids 10 feet long and 10 to 14 inches in diameter were laid across the completed grade at 10-foot intervals and partly buried in the ground so that the horses could step over them easily. By 1913, long-distance snaking was being replaced by road engines and railroads, largely because animal draft proved to be more expensive a system of transport for distances of three-fourths of a mile or more. Animals were used to a limited extent at this time for short hauls or small operations (Bryant 1913:149).

Horses had replaced oxen in the Northwest by 1910, largely because they could haul logs faster. The use of horses persisted longer in the Inland Empire than elsewhere in the Northwest where they continued to be used for pulling logs, supplies, wagons, sleighs, go-devils, and pole cars until into the 1920s and 1930s. In the Coeur d'Alene country, horse logging was discontinued in the late 1930s while in the Kaniksu National Forest, Diamond Match was the last to discontinue their horse teams during World War II (Barton 1980:42).

Steam Donkeys

Another method of skidding was to attach cables to logs, hauling them by power of steam donkeys out of the woods onto landings for further transport. Steam donkeys were used some time after 1880, the date that the first patent for a steam donkey was submitted to the U.S. patent agency. The advantages of the steam donkeys were that great power was concentrated in one place, there was freedom from the influence of ground conditions, and there was no loss of power in hauling logs up adverse gradients (Brown 1936:44).

In the Marble Creek area, steam donkeys were used during horse logging days until 1927 in order to haul logs up steep inclines (Barton 1980:42).

Chutes

Chutes were often employed on the Pacific Coast at the terminus of a skid or pole road, where the logs were dumped into a stream, pond, or other body of water (Bryant 1913:235-236). They were used as an intermediate method of log transportation or as a connecting link between the skidding operation or some other form of major transportation. They were used in steep topography with small or medium-sized timber (Brown 1936:134). Chutes were used only when no other means of transport was feasible, for even under the most favorable operating conditions many logs were broken or damaged (Bryant 1913:236-236). Chutes were constructed in three different parts: the head, cross skidded like a skid road; the chute proper; and the terminus or apron. The chute would often have side poles serving as fenders to keep the logs in the chute. The apron or terminus extended out over the water to prevent logs from striking bottom (Bryant 1913:235-236). Though chutes were costly to build and dangerous to use, in the Inland Empire an annual average of 250 miles of chutes were built. As of 1936, chutes were being replaced by tractors and trucks (Brown 1936:135) and by 1940, none were in use in the Coeur d'Alenes (Strong and Webb 1970:115).

Tractors

By the middle of the twentieth century, tractors were used in the movement of logs to a point of transport. They were often used along with logging railroads in place of spurs, or in the logging of scattered stands or pockets of timber where elaborate transport methods were not feasible (Brown 1936:34-35).

Tractors were first made in the 1880s, and the first gasoline engine was used in 1905. During World War I, tractors had been used for transporting supplies and equipment to the front. They soon became popular in the woods, replacing animal power. As of 1936, thousands of tractors were used in forest operations. They had greater speed and power than animals, were able to log rougher terrain and steeper slopes, as well as skid larger, longer, and heavier timber, and work in extreme heat and cold (Brown 1936:38-41).

Tractors were introduced into the Potlatch area as early as 1916 (Miller 1972:151) but did not become common until after 1930, when they were used along with horse logging (Femreite 1979:1-13).

Transport of Logs

Slides

Slide channels, used chiefly for transporting logs, were frequently found in Pennsylvania, the Appalachians, Idaho, Montana, and the Northwest. They were built down the valleys of streams or slopes of mountains, but they were seldom constructed profitably across watersheds because the cost of spanning depressions was too great. They varied in length from a few hundred feet to several miles and were chiefly employed in mountainous regions (Bryant 1913:230). Two types of slides were used - earth and timber. The earth slide was used for short distances on steep grades in areas where the soil was free of rock and other debris that might hinder movement of logs. It was a furrow made by dragging logs over the proposed route. Timber slides were troughs made of round or sawed timbers supported at frequent intervals by cross-skids (Bryant 1913:230-231).

Flumes and Sluices

Log and lumber flumes and log sluices were built to transport lumber, crossties, shingle bolts, acid wood, cordwood, pulpwood, mine timbers, and saw logs from the forest to mills, railroads, or driveable streams, and to carry products from the mill to market or to rail transport. Flume routes were best located by engineers who had specialized in logging; then one of two types of flumes and sluice boxes, V-shaped flume or box flume, could be constructed (Bryant 1913:394-395).

Logs were transported when water was admitted from ponds or branch flumes at the head of the main flume and from feeders located at numerous points along the route. These feeders ran from the main stream or some of its branches. Logs were rolled in from skidways, floated in from artificial storage ponds, or elevated by log loaders. The use of ponds was the simplest and cheapest method, while the use of a log loader was more expensive (Bryant 1913:410). Flumes were used to some extent in every forest region, but were considered especially practical where stream transportation was not available and when the topography rendered railroad construction too costly (Bryant 1913:394). In the Coeur d'Alene area, 150 miles of 35 flume projects required a quarter-million or more feet of lumber (Strong and Webb 1970:115).

Advantages of log flumes over logging railroads in rough regions were that they could be carried across gulches on fairly light trestles; could be operated on steeper grades; occupied less space than a railroad, requiring smaller cuts and tunnels; and could be located in canyons too narrow for railroads. Disadvantages were that the transport of long and crooked logs was difficult; light construction rendered them subject to damage by windstorms, fires, floods, falling timber and other natural agencies; they usually offered no means of transporting supplies from the railroad to the mill or forest; and transport of lumber roughened the surface of planed material and battered the ends of boards (Bryant 1913:394).

Log Drives

Log drives were an important means of transporting timber for decades on a number of rivers in the Idaho Panhandle, including Priest River, the Little North Fork of the Coeur d'Alene River, and the St. Joe River.

Logs were skidded and chuted to landings near flumes and driven into the rivers to join log jams which had accumulated through the winter. Log drive crews assembled during the first of April to guide, snake, and blast the logs downriver in the spring run-off (Barton 1980:38).

Logs were transported on the rivers to various sorting gaps where individual logs were separated by sorters according to the company bark marks stamped on the side of each log. The logs from each company were sorted into bundles known as booms which could then be attached to steam tugboats and transported to company mills (Barton 1980:41).

Horse logging and log drives often went hand in hand. Log drives continued in the Idaho Panhandle area from the early 1900s through World War II in some areas. The last log drive on the Little North Fork of the Coeur d'Alene River was in 1937. Log drives were sporadically used on the Priest River until the early 1960s (Barton 1980:42).

Forest Railroads

Forest railroads were often used in connection with existing carriers such as flumes, chutes, tractors, and motor trucks. The introduction and increasing installation of large capacity sawmills necessitated a continuous large and reliable flow of logs daily. These conditions made the logging railroad the most important single medium of major transportation. This method of transport was especially adapted to long hauls and large tracts of land (Brown 1936:203). The first railroads were crude pole roads eventually improving to narrow, then standard gauge steel rails.

Pole roads were used by lumbermen because the material for construction could be secured on the operation at no expense except for labor and stumpage. These roads were primitive in character and quickly became obsolete except on an occasional small operation where sawed wooden rails or steel rails could not be secured at reasonable cost. Animals could be used as draft power, although on downgrades the cars could descend by gravity under control of a brakeman. Pole roads were seldom built for distances greater than from 2 to 2½ miles. On one Idaho pole tram 1½ miles in length, two horses hauled from 7,500 to 9,500 feet log scale daily, each car load containing approximately 1,600 feet (Bryant 1913:245).

The successful use of steel-rail logging roads began in 1876, when a logger in southern Michigan, Scott Gerrish, built a railroad for transporting logs from Lake George to the Muskegon River, down which they were driven to the mill. The number of logging railroads increased rapidly and by 1881, there were 71 in operation in Michigan and five in Wisconsin (Bryant 1913:247). By 1880, there were two dozen railroads along the west coast (Adams 1961:12) and by 1910, there were approximately 2,000 logging railroads with about 30,000 miles of track in operation in the entire United States (Bryant 1913:247).

When logging railroads were built, they were merely substitutes for a precarious water supply and generally followed the paths of least resistance during construction, making for some haphazard roads. Ideally, the location of the main line of a logging railroad was to be determined by an engineer.

In a rolling or rough country, especially in the West, location presents difficult problems, because roads must be confined chiefly to natural drainages and often the only means of access to timber is over a route requiring heavy cuts and fills and expensive bridge and

trestle construction. The location of logging railroads in a rough region should be done by a location engineer who is an expert logger...Spur lines are located with less care than the main lines for they are shorter and of cheaper construction, since they are to be used only for a short period and limited amount of timber is to come out over them. They should follow natural drainage... (Bryant 1913:253).

The earliest logging locomotives were wood burners and labor to keep them supplied was costly, as four to five cords of wood were needed for less than one hundred miles. Coal was sometimes available. By 1930, oil burners, consuming a barrel of oil an hour, had replaced other kinds of burners (Adams 1961:84).

Railroad transportation demonstrated a number of advantages over other kinds of log transport: railroads made large areas of timber accessible which otherwise could not be logged because of the lack of streams for floating logs, they were considered independent of climatic conditions so that they could be operated throughout the year. Also, the use of railroad transport did not force the manufacturer to anticipate market conditions months ahead of time, because logs could be cut and hauled to the mill on short notice and special requirements for long timbers could readily be met. Furthermore, logs arrived clean and unbattered (Bryant 1913:248).

More than 20 logging railroad systems with 300 miles of track were built and used in the Coeur d'Alenes. Two especially ambitious railroad systems in the study area were the Burnt Cabin Railroad in the Burnt Cabin Creek area and Rutledge's Incline Railroad from Clarkia over the Elk Basin Divide into Upper Marble Creek (Strong and Webb 1970: 212). (See Appendix C for a list of logging railroads in Washington and Idaho).

Trucks

Railroad logging was expensive, often up to 40 percent of the cost of logging, and the Depression of the 1930s saw many operations fold. The auto truck soon replaced the railroad as a cheaper means of transport (Adams 1961:123). Furthermore, with the arrival of bulldozers, chutes, flumes, and forest railroads faded altogether as roads were built into logging areas and trucks arrived (Strong and Webb 1970:131).

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The earliest logging locomotives were wood burners and labor to keep them supplied was costly, as four to five cords of wood were needed for less than one hundred miles. Coal was sometimes available. By 1930, oil burners, consuming a barrel of oil an hour, had replaced other kinds of burners (Adams 1961:84).

Railroad transportation demonstrated a number of advantages over other kinds of log transport: railroads made large areas of timber accessible which otherwise could not be logged because of the lack of streams for floating logs, they were considered independent of climatic conditions so that they could be operated throughout the year. Also, the use of railroad transport did not force the manufacturer to anticipate market conditions months ahead of time, because logs could be cut and hauled to the mill on short notice and special requirements for long timbers could readily be met. Furthermore, logs arrived clean and un battered (Bryant 1913:248).

More than 20 logging railroad systems with 300 miles of track were built and used in the Coeur d'Alenes. Two especially ambitious railroad systems in the study area were the Burnt Cabin Railroad in the Burnt Cabin Creek area and Rutledge's Incline Railroad from Clarkia over the Elk Basin Divide into Upper Marble Creek (Strong and Webb 1970: 212). (See Appendix C for a list of logging railroads in Washington and Idaho).

Trucks

Railroad logging was expensive, often up to 40 percent of the cost of logging, and the Depression of the 1930s saw many operations fold. The auto truck soon replaced the railroad as a cheaper means of transport (Adams 1961:123). Furthermore, with the arrival of bulldozers, chutes, flumes, and forest railroads faded altogether as roads were built into logging areas and trucks arrived (Strong and Webb 1970:131).

The auto truck had been in the woods since 1913, and World War I had demonstrated its usefulness and stimulated the manufacture of more powerful models. Early logging trucks with gasoline motors often required plank roads and some had to be hauled up and down hills due to lack of power or brakes. However, by 1930, diesel and gas trucks were hauling 6 percent of the logs reaching mills at a lower cost than railroads. The motor truck required a less expensive motor bed, a lower initial expense, could negotiate sharper curves and enter rougher country than a railroad (Adams 1961:123-125).

Trucks were being used in the Coeur d'Alene forest areas as early as 1928, though in other areas such as the Little North Fork, they were absent until the 1940s. The first trucks with solid rubber tires hauled logs along pole roads and plank roads. In the 1930s, bulldozers came into use in order to construct roads and skid logs (Barton 1980:45). Soon, major roads were built and truck logging became the means of transporting logs.

Summary

Logging methods and techniques varied a great deal over time and throughout the study area, depending largely on terrain, accessibility of timber land, and size of logging operations. Chronologically, the general trend was a movement from the use of horses, steam donkeys, chutes, flumes with log drives, then railroads toward the increasing mechanization of logging and the introduction of the tractor, bulldozer, and truck. In many areas, earlier use of horses, chutes, and log drives persisted until the middle of the twentieth century, never having been replaced by railroads. In other areas, the use of the railroad in logging took root immediately, but with expense and difficulty of access, soon gave way to truck logging (see Figure 13).

It is obvious that there is no absolutely concrete pattern which readily emerges as the method of logging used in all areas through time. According to historical documents, a number of combinations of methods could be used. Horse logging could coincide with railroad logging, flumes could be used for either movement of logs or transport of logs, steam donkeys moved logs for log drives and railroad transport. In reality, more concrete trends and patterns may be revealed by historical remains.

Logging Camps

The kinds and conditions of logging camps have varied through time and by geographic region. The earliest camps were often of rough, crude construction.

Tiers of wooden bunks with straw for bedding, a large stove in the center of the bunk house, and wires strung above to dry wet clothing, were the prevailing practice. Rough, coarse food with emphasis on beans was provided in the cook shack. These two main buildings together with the wanigan or commissary (camp store), a horse barn, root cellar, quarters for the logging boss and camp clerk, and blacksmith shop generally composed the series of buildings which were erected in summer or fall and occupied for one or more season (Brown 1934:61).

Another view of early logging camps describes them as having typical log buildings one story high with notched corners and chink in spaces. The buildings in these camps often included an office and store, a cook shanty, a bunk house, stables for the animals, a storehouse for supplies, a storage or root cellar for vegetables, a blacksmith shop for equipment making and repair, and storehouses for equipment. A camp such as this would have an average crew of 60 men (Bryant 1913: 57-61).

In some parts of the Northwest, especially where logging railroads were used, log buildings were sometimes replaced by board camps covered with tarpaper. Buildings of this character were torn down when a camp site was abandoned and the lumber used for buildings on a new site (Bryant 1913:61).

Another type of camp was the portable-house camp, where the buildings were used indefinitely and moved from place to place as logging progressed. These were placed on skids along either side of the main line or on a spur of a logging railroad. Camps of this kind could constitute a small village with a school and church for loggers and their families. Other buildings in such a camp could include quarters for the superintendent, boardinghouse for single men, barns, machine shop, storage houses, coal supply bins for the locomotives, and a store. When families were not present in camps, the buildings were limited to bunk houses, office and cook shanty. Due to its size, the cook shanty was often not portable. "Camps of this character are found in the Northwest" (Bryant 1913:61-62).

Car camps consisted of a number of box cars which were fitted as sleeping quarters, kitchen and dining-room, and office and commissary. They were moved from site to site and placed on siding at each camp (Bryant 1913:66).

As can be seen, the coming of the railroad brought changes to living conditions as well as working conditions. "With quick and easy access to the outside world, portable houses and family camps replaced the old log camp. There was greater permanency of location. Men could be moved greater distances to and from the felling and skidding operations as they were transported on log trains" (Brown 1934:62).

The location of logging camps, at least by the mid 1930s, was, ideally, dictated by a number of considerations. Convenience to work was an important factor as it was desirable that men be located close to work. Preferably, distance was not to exceed one mile by walking or a 20-30 minute ride by truck or railroad. Closeness to source of supplies, being a large percent of the total cost of a logging operation, was also taken into consideration. Dry ground for health reasons and a pure water supply were also important in the location of logging camps (Brown 1934:63-64).

Food was important to every camp. One cook could competently prepare food for 80 to 100 men, usually with an assistant or "flunky" and chore boy. It was customary to feed the entire crew at one time. "Kitchen utensils may be of iron, tin or granite ware. Dining plates, cups and serving vessels are preferably of heavy granite ware, although some companies use heavy china plates. The cutlery is of steel with plain wooden handles" (Bryant 1913:68).

The following list shows the equipment used in a northern camp where sixty men were fed:

1 six-hole cooking range	5 ten-quart pans	3 frying pans
4 bean pots	24 pepper and salt shakers	7 iron kettles
13 bread pans	74 spoons	1 porcelain kettle
4 butcher knives	3 sieves	2 meat grinders
1 chopping bowl	3 wash boilers	1 nutmeg grater
4 "dutch" ovens	9 lunch baskets	12 three-quart pans
80 half-pint cups	2 bake pans	10 two-quart pans
74 forks	4 beef boilers	18 pails
74 knives	7 baking pans	86 plates
24 ladles	7 coffee boilers	2 skimmers
10 molasses jugs	1 chopping knife	16 wash basins
10 mixing spoons	3 long-handled dippers	1 washboard
2 mixing pans		

The total value of the above camp equipment was from \$200 to \$225 (Bryant 1913:68).

Rations

The quantities of different foodstuffs were as follows:

Article	Unit	100 rations	
		(1)	(2)
Fresh Meat.....	Pounds	100	80
Cured meat.....	Pounds	50	36
Lard.....	Pounds	15	18
Flour.....	Pounds	80	130
Corn Meal.....	Pounds	15	8.2
Baking powder.....	Pounds	5	1.85
Sugar.....	Pounds	40	34
Coffee.....	Pounds	12	2
Tea, chocolate or cocoa.....	Pounds	2	2.8
Butter.....	Pounds	10	1.3
Oleomargarine.....	Pounds		1.6
Dried fruits.....	Pounds	20	13.7
Rice or beans.....	Pounds	20	35
Potatoes or other fresh vegetables	Pounds	100	162
Salt.....	Pounds	4	6.5
Peas.....	Pounds		4.25
Molasses.....	Gallons	1	0.36
Pickles.....	Quarts	3	
Vinegar.....	Quarts	1	0.20
Milk, condensed.....	Cans	10	
Canned vegetables or fruits.....	Cans	30	
Spices.....	Ounces	4	0.60
Flavoring extracts.....	Ounces	4	
Pepper or mustard.....	Ounces	8	

(1) U.S. Geological Survey

(2) Maine logging camp

The cost of feeding men in logging camps usually ranged from 45 to 65 cents per day (Bryant 1913:69).

Good hygiene was encouraged in logging camps, or at least expressed in writing by 1913. It was proposed that diseases could be avoided by supplying pure drinking water, burning or burying all kitchen and stable refuse, and providing tight latrines, "so that flies cannot infect the food supply" (Bryant 1913:70). It was further stated that all meat and other supplies should be kept in screened enclosures, sleeping quarters should be well lighted and ventilated, and disinfected at least once a week. Suitable bathing quarters and laundry equipment should be provided and underclothing washed once a week (Bryant 1913:70).

By 1934, the Pacific Northwest was noted for its advances in camp construction, sanitation, recreation, and food supplies. "The camps are characterized by shower and tub baths, separate iron beds and mattresses, electric lights, recreation facilities, and the best quality and variety of food, well prepared and served by competent chefs" (Brown 1934:63). Many of these amenities were the result of union agitation beginning in 1917.

According to one source (Russell 1979:143) men quit staying in logging camps in the Idaho Panhandle area around 1928 and commenced driving cars to work, though camps still existed as late as the 1940s as evidenced by the account that Potlatch would not allow a cook's wife to work in the same camp at this time (Russell 1979:261).

Industrial Workers of the World

Early in the twentieth century, the Industrial Workers of the World (IWW) played a significant role in the lumber industry of the Pacific Northwest. The IWW developed out of conditions presented by America's new industrial society. IWW members, whether American-born or foreign-born, were first generation immigrants to this new economy. These immigrants ranked at the bottom of the economic ladder, becoming migratory workers moving from job to job picking fruits, laboring in mines, construction camps, and lumber camps (Dubofsky 1969:5-9).

The lumber industry of the Pacific Northwest was a reservoir of unskilled and semi-skilled workers seasonally following occupations. They made up a labor force which was transient, part-time, and cheaply paid, and which found the IWW a "congenial organization" (Tyler 1967:25).

The IWW rose in an effort to organize the entire working class of America and possibly the world. The IWW unions did not require high initiation fees or exorbitant dues and membership cards were interchangeable between unions. From the IWW, members also received "the comforting assurance that they were the salt of the earth and the favored of history, that out of their anger and their aspirations for a better life, the inevitable, cooperative commonwealth would bloom" (Tyler 1967:26). Furthermore, IWW halls, established in low rent districts of western towns, served as union halls, social clubs, dormitories, mess halls, and mail drops (Tyler 1967:26).

The IWW fought for free speech, advocated sabotage, and publicized the plight of "class war" victims in the Pacific Northwest publication *Industrial Worker* (Tyler 1967:10-12).

The 1917 Strike

In 1917, a general strike among lumber men in the Pacific Northwest was brought about by the IWW and poor working conditions. The strike partially paralyzed the lumber industry, required government intervention, and finally resulted in improved working and living conditions for loggers.

The eight-hour day became the symbol of the workers discontent, but, in large part, working conditions produced labor troubles and the most durable source of unrest in the lumber industry, setting off the 1917 strike. Conditions in logging camps entailed a half dozen shacks, which served as bunk houses, a foreman's office, camp store, and cook's shack. Often, two dozen men occupied a single bunk house and because of overhead, "...plumbing, windows, landscaping, even adequate sleeping space became luxuries the companies could hardly afford" (Tyler 1967:90). The men worked in all kinds of weather with no facilities for drying clothes. Bed rolls and meals of starches and grease were the norm. In a 1917-1918 study of logging camps "...investigators found that half the camps had crude wooden bunks, half had no bathing facilities, and half were infested with bed bugs" (Tyler 1967:90).

In mid-June of 1917 near Sandpoint, Idaho, several hundred loggers unassociated with the IWW, walked off their jobs in protest of "abominable living conditions." This unscheduled strike set off protests all over the region. IWW delegates were often "natural" leaders in groups and because "...the IWW was the only instrument available the strikers accepted its proffered leadership" (Tyler 1967:92).

Demands of the strikers of the IWW consisted of an eight-hour day; \$60 per month minimum wages, to be paid on two regular pay days every month; springs, mattresses, and bedding in all logging camps; showers and laundry rooms; hiring through union halls; and free transportation to the job (Tyler 1967:93).

For a number of reasons, the IWW leadership soon ordered the strikers to retreat, announcing that they would continue to strike on the job with sabotage and slowdowns. Some members quit working at the end of eight hours, others stayed ten, but worked only eight. At this time, the nation desperately needed lumber for the army demands of cantonments, railroad freight cars, and cargo ships (Tyler 1967:93, 95). Logging camps were operating at only 50 percent capacity and mills at 60-65 percent, "scarcely sufficient in either case to satisfy wartime demands" (Dubofsky 1969:412).

"To stimulate production, the government obviously had to find some formula to improve the morale of workers in the industry. In the absence of any labor organization with which the operators would negotiate, the government found itself creating its own labor organization" (Tyler 1967:101).

Colonel Brice P. Disque was sent to the Northwest to intervene in the troubled lumber industry. He first organized military men, mainly former loggers, to work in the woods. These were soldiers who wore civilian clothes, did civilian labor at civilian wages, but remained under military discipline (Dubofsky 1969:412).

Disque went on to organize the Loyal Legion of Loggers and Lumbermen (4 L's) in which recruited members joined a new organization with not much more than a name, pledging loyalty and support to the United States in wartime. The members pledged to perform duties with best efforts toward "production of logs and lumber for the construction of Army airplanes and ships to be used against our common enemies" (Tyler 1967:103).

Disque then began meetings with lumber employers. The employers "...consented to allow the colonel leeway to resolve all labor issues including the eight-hour day" (Dubofsky 1969:413). The eight-hour day became effective March 1, 1918, and other reforms followed. A uniform minimum wage for the lumber industry was established and logging camps were to provide bedding, including regular changes of linen (Tyler 1967:107).

Disque's organization of the Loyal Legion of Loggers and Lumbermen with practically compulsory membership and a no-strike policy closed the woods to labor organizers and to trade union members. "In recompense for giving their employees the eight-hour day, uniform wages, and decent bed and board, employers obtained a more docile labor force...never again would the IWW represent a substantial threat to the lumber industry" (Dubofsky 1969:413, 414).

According to one author "...in the accounts of the strike of 1917 which appeared in its pamphlets and newspapers, the IWW proudly took credit for the eight-hour day, for the disappearance of blanket rolls from the camps, for the newly-built shower rooms, in short, for all the reforms. The public, however, credited the Loyal Legion with the reforms through a process--impossible for the Wobblies to understand--of class collaboration" (Tyler 1967:111).

COLVILLE NATIONAL FOREST
BLM - SPOKANE DISTRICT

As in northern Idaho, lumbering and logging has always been important in northeastern Washington. Reportedly, the first sawmill in eastern Washington north of Walla Walla was built on Mill Creek four miles east of Colville in 1862 by R.H. Douglas. Four to five hundred feet of lumber per day were cut at the mill. When the U.S. Army built a mill with a circular saw, five thousand board feet were cut a day (Holstine 1978:37-38).

With the improved transportation of the railroads, larger timber operations became possible. "Between 1890 and 1892 at least twenty sawmills sprang up near the SF&N between Loon Lake and its farthest point north. Many sawmills were built almost overnight along the Idaho and Washington Northern Railroad in the Pend Oreille valley, and logging operations boomed as the cutting and shipping of cedar poles by rail became profitable" (Holstine 1975:38). In 1910, one hundred sawmills existed in Stevens County, thirty-seven of which had been built since 1898 and the lumber industry alone employed about five thousand men in the county at this time (Holstine 1975:38).

"By the turn of the century, lumbering was becoming one of northeastern Washington's most important businesses. In the area between the Okanogan and Columbia Rivers, extensive logging operations were not yet underway on the timberlands which became the Colville National Forest in 1907" (Holstine 1978:39).

The Pend Oreille River was also used as a transportation route for forest products during the first half of this century. Various methods were used to transport the logs from logging operations to the river or to the Chicago, Milwaukee, and St. Paul Railroad. For example, the Phelps Lumber Company and Fidelity Lumber Company would sleigh logs out of the mountains during the winter to Calispel Lake. From here, the logs were floated down to the Pend Oreille River where the Fidelity logs were towed to Newport by steamers or tugs and the Phelps logs to Cusick where each company had a mill (Ziegler 1974:23). Logs were also moved by wagons to mills on the river or to sidings to be transferred to railroad cars.

Some of the early logging companies such as the Panhandle Lumber Company utilized narrow gauge railroads to move their logs from mountainous areas to the Pend Oreille River. Other modes of transportation included flumes and chutes. During the 1920s, the Diamond Match Company built a tramway from their logging camp, Diamond City, to Lost Creek Station on the opposite side of the Pend Oreille River. This tramway was used to send green lumber and cedar poles to a storage yard next to the highway and railroad (Billings 1972:7).

Timber availability to these companies and others increased as a result of the 1910 forest fires. Although many hundreds of acres were burned, the trees were still useful as saw logs. This supply gave an unexpected "boost" to the timber industry.

Pend Oreille County experienced its most active period of lumber production between 1900 and 1930. As will be seen in the Idaho Panhandle National Forests, this was the era of the big logging companies. Some of the major logging companies in Pend Oreille County have been Panhandle Lumber, Fidelity Lumber, Phelps Lumber, Diamond Match, White Pine Lumber, Leach White Pine Lumber (which was bought by White Pine Lumber), and Dalkena Lumber. The "genealogies" of these companies are stories within themselves. Large mills have been located at Cusick, Ione, Dalkena, and Newport. There were, of course, many small mills which were usually located closer to the forest resources.

Most of the major drainages were logged during this time. These included: Tacoma Creek, PeeWee Creek, Flume Creek, Winchester Creek, Small Creek, Sweet Creek, LeClerc Creek, Skookum Creek, Ruby Creek, and Lost Creek (Cannon 1967).

During the 1930s there was a drastic slowdown in logging due to the Depression. By the 1940s production was on the upswing again as the economy rose as a result of World War II. More specifically, the construction of the Naval Training Base at Farragut gave a much needed boost to the forest products industry in Pend Oreille County.

Today, logging and lumbering are still major economic forces in the county. Although the number of mills has diminished from the early days, the impact of the industry is seen both directly and indirectly - directly through field logging jobs and mill jobs, and indirectly through support services.

KANIKSU NATIONAL FOREST BLM - COEUR d'ALENE

Prior to 1900, logging in the Kaniksu National Forest (the Bonner/Boundary County area) was confined to small operations supplying local building needs, cordwood, poles, and ties for the railroads. The picture changed at the turn of the century when the large lumber companies from the Great Lake states began focusing their attentions to north Idaho. This attention was due in part to a United States Geological Survey by Leiberg concerning in part, forests of the Priest River Reserve (which is now partially contained within the Kaniksu National Forest). Although this report was not published until 1898,

the work was begun in the 1860s. Leiberg and his crew surveyed the forest area and reported on the immense and magnificent stands of timber. The extensive stands of white pine were what the large eastern lumber companies were interested in.

Timber lands in north Idaho were being purchased by the large lumber companies even prior to Leiberg's report. Although much of north Idaho was under federal management, there were still large tracts of land in private ownership. The bulk of these lands were owned by the railroads. This ownership was the result of federal land grants to the railroads as an incentive to build through sparsely populated areas. The Humbird Lumber Company, for example, purchased 20,018.48 acres from the Northern Pacific for \$144,133.05 in 1901. This land was situated along the north side of Lake Pend Oreille from Oden Bay to Sandpoint north to Selle and beyond (Norlen 1976: 105). These lands yielded heavy stands of fir, white pine, tamarack, and cedar. This example was true throughout the Bonner and Boundary County area. Timber lands in the national forests were also "opened" to harvest during the early 1900s as part of the federal government's management of natural resources.

Soon, the large lumber companies had located mills in Bonners Ferry, Sandpoint, Hope, LaClede, Dover, Albeni Falls, and Priest River. The Humbird Lumber Company was one of the largest companies in this area. In 1904, this company purchased the Kootenai Bay Lumber Company on Lake Pend Oreille, just east of Sandpoint. In 1917, the Fidelity Lumber Company mill at Albeni Falls was purchased by Humbird (Hutchison 1938a:15). The A.C. White Company mills were at Dover and LaClede and the Hope Lumber Company operated the mill in that community. The only large mill in this area outside the Pend Oreille drainage was located at Bonners Ferry. This mill was built in 1905 by the Stein Lumber Company and two years later was purchased by Weyerhaeuser and McCoy (Hutchison 1938a:28). By the 1920s, additional facilities such as C.W. Beardmore and the White Pine Lumber Company were operating in this area.

Many of the logs cut in the Kaniksu National Forest were transported to the mills via a system of splash dams and/or flumes to the lakes or larger rivers in the area. The Priest Lake, Upper Priest Lake, and Priest River areas were well known for the log drives that took place there until the late 1940s. Most of the large companies also employed narrow gauge railroads to transport logs. In the Priest River area, these railroads ended at the river where the logs were floated downstream to the mills.

Between 1900 and the late 1920s, the lumber industry in Bonner and Boundary Counties was "riding high". Although some mills closed the overall production did not decrease. In 1925, the largest output of 236,000,000 board feet of lumber was produced (Hutchison 1938a:28). However, from this point on the industry began to decline. In 1926, the Bonners Ferry mill closed and by 1930, several more closed or were sold. Most notable was the Humbird Lumber Company. By 1931, all but two of the large mills had ceased operation and by 1932 the total production of the Bonner-Boundary area was only 11,000,000 board feet (Hutchison 1938a:28). This decline was due largely to the economic conditions of the country as it struggled through the Depression.

Toward the end of the 1930s, the logging and lumber industry in Kaniksu began to pick up. Diamond Match was operating the mill at Albeni Falls and the A.C. White Mill opened for a while in addition to the smaller mills of the H.S. Brown Timber Company, McFarland-Brown Lumber Company, and E.C. Olson Company. The entry of the U.S. into World War II gave the lumber industry a boost, particularly with the construction of the Farragut Naval Training Station at the south end of Lake Pend Oreille. The post-war era also proved to be a boom period for the logging and lumber industry.

Today, the larger mills are located in Bonners Ferry, Sandpoint, Dover, LaCledé, and Albeni Falls. Gone are the Humbird, A.C. White, and Beardmore Lumber Companies. The Pack River Lumber Company no longer exists either. The large mill owners today include: W-I Forest Products, Inc., Louisiana Pacific, Brand S, and Diamond International.

COEUR d'ALENE NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

At the turn of the century, the timber resources of the Coeur d'Alene National Forest area had also been noticed by the large eastern lumber companies. These vast stands of timber had been supplying the local market for over 20 years. One of the military's first tasks after establishing Ft. Coeur d'Alene (later called Ft. Sherman) was to erect a sawmill. This mill was not a commercial operation, but rather supplied the lumber needed for the numerous structures at the fort. Some lumber was sold to locals and at least one steamer was constructed from lumber milled here.

The first commercial sawmill is accredited to Frederick Post in 1882 (Anonymous 1903:782). Post's mill was a water-powered operation situated at the falls that were to become known by his name. Other small mills sprang up in the Coeur d'Alene River valley as the development of the mineral industry increased. Sawmills were located in the Prichard Creek area, Wallace, and at the larger mines. These mills supplied the mines with timbers for shoring up tunnel walls, in addition to producing lumber for the construction of new mining towns.

Railroad ties were also produced when the Northern Pacific was built through northern Idaho in 1880, and when a branch line was extended to Lake Coeur d'Alene in 1886. Ties were also needed as the railroad system expanded into the Silver Valley. These ties were not always manufactured at mills. Often, they were handhewn with an adze according to oral history informants, an operation that did not always necessitate a large capital outlay. Many homesteaders and other settlers made ties as supplemental income so that they could remain on their farms.

In addition to the needs of the mines and towns, the burgeoning fruit business in eastern Washington was in need of lumber products (Strong and Webb 1970:6). The need manifested itself in the production of wood packing boxes which were produced in the Coeur d'Alene area.

By the early 1880s, sawmills were built at Harrison which was a natural location for a mill (Strong and Webb 1970:21). Situated at the mouth of the Coeur d'Alene River on Lake Coeur d'Alene, Harrison was destined to become an important mill town. Such lumber operations as the Grant, the Empire, and Sexton (later the Cameron Lumber Company) built mills in Harrison by 1895 (Hutchison 1938b:34). By 1910, "a mile and a half of the city waterfront presented an unbroken array of sawmills, shingle mills, and box factories" (Hutchison 1938b:34). Soon mills were built near Harrison along the Coeur d'Alene River. These included the Springston Mill (later owned by Russell and Pugh), the Lane Mill, and the Rose Lake Mill (Hutchison 1938b:34).

Coeur d'Alene also proved to be an important milling center. This town developed on the outskirts of the fort in the early 1880s. By the 1890s, the Saginaw Lumber Company (later the Coeur d'Alene Lumber Company) and the B.R. Lewis Lumber Company (later known as the Blackwell Mill) built mills at Coeur d'Alene (Hutchison 1938b:34). The early 1900s brought the Winton Lumber Company. Because of the readily available timber resources, these mills were able to supply eager eastern and mid-western markets. The existence of the trans-continental railroad made this possible. The lumber industry grew rapidly in the early 1900s. The disastrous fires of 1910 made additional timber available to these lumber companies by opening areas which were fairly inaccessible before.

As the industry grew in the area, another large mill was built in Coeur d'Alene. This plant, owned by the Edward Rutledge Lumber Company, was built in 1916 (Hutchison 1938b:34). The Panhandle Lumber Company was also operating a mill in Spirit Lake. And, by the early 1920s, Ohio Match had established a mill at Heutter (Hutchison 1938b:34).

Transporting logs from the mountains to the mills in these early days usually took several forms. As in the Priest Lake country, splash dams were constructed along tributary creeks of the North Fork of the Coeur d'Alene River to provide an adequate flow of water to float the logs to the river. Other times, flume systems were used to transport logs, or narrow gauge railroads were constructed to move the logs to the lumber mills.

The lumber industry was quite prosperous until about 1925 when economic conditions began slowing production. Every year, fewer and fewer mills remained open. In 1925 the output of the area sawmills was 954,675,000 board feet, whereas in 1932 it dropped to 210,264,000 board feet (Hutchison 1938b:38).

Not only were economic conditions unfavorable to the lumber industry, but nature also dealt a disastrous blow in 1933 when major flooding destroyed mills, logging railroads, flumes, chutes, roads, and other improvements (Strong and Webb 1970:48). The railroad from Evanville to Murray was washed out and never replaced. Only six of the important mills were still operating in 1938. These were the Atlas Tie Company of Coeur d'Alene, Ohio Match (later incorporated into Diamond Match), the Rutledge Unit of Potlatch Forests, Inc. (formerly the E. Rutledge Timber Company), the Winton Lumber Company, Post Falls Lumber Company, and Panhandle Lumber Company in Spirit Lake (Hutchison 1938b:34). The following year the Panhandle Mill in Spirit Lake closed, causing a devastating blow to the town's economy (Strong and Webb 1970:52). The industry took an upswing as a result of World War II. Although the post war years showed some decrease in production, the industry overall has remained healthy.

ST. JOE NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

Those areas in and adjacent to the St. Joe National Forest which reflect the history of the lumber industry in northern Idaho are the Bovill-Potlatch area and that of Marble Creek in the St. Joe valley and its drainages. Around 1900, lumbermen began looking toward Idaho for timber. Frederick Weyerhaeuser saw a graphic display of the state's

timber at the Chicago World's Fair in 1893 and along with J.A. Humbird, bought scrip from the Northern Pacific Railroad for 40,000 acres of the land. As there were a number of people interested in this new area, the history of the Idaho lumber industry, particularly in the St. Joe National Forest, involves the history of several competing companies--primarily the Potlatch Lumber Company, Clearwater Timber Company, and the Edward Rutledge Timber Company (Madden 1975:10-12).

The foundation for the Clearwater Timber Company was laid on December 13, 1900, after Charles Brown sent his son Nat racing to claim and file land before competition prevailed. By 1927 the company held 220,000 acres of Idaho white pine and an operating sawmill in Lewiston (Madden 1975:10-12).

Another company was organized by Edward Rutledge, an associate of Frederick Weyerhaeuser. He organized the Edward Rutledge Timber Company about 1915 and built a sawmill in Coeur d'Alene (Madden 1975:10-12).

The third lumber company to operate in the area was the Potlatch Lumber Company which came about as a merger of several small businesses. A number of companies were competing with each other for state timber land at auction sales in 1902 and 1903. The Weyerhaeuser group, through the Northland Pine Company and William Deary, bought homestead claims and other lands in the Palouse-Potlatch area. At this time the Wisconsin Log and Lumber Company was also buying state land. In 1903 the companies agreed to "combine their Palouse Valley undertakings in one company for more effective purchasing and ultimate manufacturing (Hidy et al. 1963:255). The result of the merger was the Potlatch Lumber Company.

Under the direction of manager William Deary, the Potlatch Lumber Company mill and company town were built. "When the mill opened, 128 dwellings were occupied, 35 more were nearly finished, and plans for another 40 had been accepted. Before long a grade school, high school hotel, two churches, and a spacious two-story general store, built of brick, were ready. For single men, two large boarding houses were provided (Hidy et al. 1963:256).

To bring the Potlatch Lumber Company's timber from the hills and transport finished products, a railroad was built by the Washington, Idaho and Montana Railway Company which was organized in March of 1905. "This 45-mile railroad ran from Palouse, Washington, through Potlatch eastward to Bovill, where it met the Chicago, Milwaukee, and St. Paul when that line was eventually completed. The railroad stimulated lumber, agriculture, and mining carrying produce as well as logs" (Hidy et al. 1963:257).

Though the Potlatch Lumber Company sawed an average of 130 million board feet of lumber a year between 1908 and 1927, it was, as were its two rival companies, having financial difficulties. Fires, increasing cost of railroads, and transportation systems competition with other Idaho companies were among the reasons given for such difficulties. As the situation became more desperate, the three competing companies voted to merge, and in 1930 Rutledge, Potlatch, and Clearwater Lumber companies and their plants became a single company. The new firm was named Potlatch Forests, Inc. (Madden 1975:12-14).

In the Potlatch-Bovill area, railroads were fundamental to all movement of logs. "All other movement of logs was achieved only to reach the rails, which served to bear them to the mill" (Miller 1972:149).

Logs were dragged to railroad landings by logging teams and steam donkey engines. After 1916, tractors were used with increasing frequency although this on a local basis, and there was no great dependence on them until after 1930. Log drives took place only in the first several years of logging, and after 1907 no large drives took place on the Palouse or Potlatch (Miller 1972:151).

"Within each river system, railroad spurs ran up nearly every stream to the point where the ground was quite mountainous, these spurs were generally not more than a mile apart. In many places, the distance was considerably less--only a half mile, or perhaps a quarter of a mile from one spurline to the next. Consequently, much of the timber had to be moved only a short way. Skid teams often could move logs directly to the landings " (Miller 1972:151). When the distance was longer, the logs were first moved to a local skidway, then transferred to a logging dolly or sleigh (Miller 1972:151).

Steam donkey engines were used in large and heavy timber and in areas where the terrain was rough or slopes steep. They brought the logs directly to a central point along skid roads (Miller 1972:152).

Highlines, reportedly an innovation to logging developed in the Bovill area, was a system for moving logs on a cable tramway--the cable supporting the trolley ran down the slope, around the power unit, and then back to the summit. "It is said to be the only highline of this particular type ever used in logging" (Miller 1972:152).

Apparently in the Palouse, Potlatch, and Elk Creek basins, flumes were not used often. Chutes were sometimes used to bring logs to a landing site down long or steep slopes. "These were constructed by laying paired logs side by side. A slot between them which served to guide the logs, was lubricated with a trickle of water...but this alone was only a glorified skidway" (Miller 1972:152).

Logging camps were established throughout Latah County by the Potlatch Lumber Company. A number of these were rail camps and more often than not, until around 1930, horse logging was the most common method used to move logs. Tractor logging became more common after 1930, but horse logging was still used extensively (Femreite 1979: 1-13).

Potlatch's Camp 8 was established in 1904, one mile north of Bovill and was five miles from any railroad. Here logs were stored in a constructed pond, then flumed down Potlatch Creek past Bovill to a storage pond five miles south of Bovill at the railhead. In 1906 when the railroad was constructed into Bovill, the Milwaukee Railroad came from Clarkia to Bovill Camp 8, which then became the headquarters for the Potlatch Lumber Company. A large shack town sprang up with a school and large shops for logging equipment (Femreite 1979:4).

Camp 35, established in 1940, was Potlatch's largest camp. It was located on Merry Creek seven miles north of Clarkia railroad camp. The camp operated four years and during the winter of 1941 and 1942, 300 men worked at the camp with four complete trains working out of the area (Femreite 1979:6).

In addition to the Potlatch and Bovill area, the Marble Creek area, fourteen miles east of St. Maries, was historically an important center of logging. Originally Marble Creek was settled by a small number of homesteaders coming into the area in the 1880s. Here timber was very difficult to get to and people did not begin looking seriously at the resource as a profitable effort until the turn of the century (Anonymous 1940:1). In addition to the difficulty of removing timber, many of the desirable sections of timber had been homesteaded by those who took advantage of the 160-acre Homestead Act. As in other areas, a "bitter fight between the homesteaders and the logging companies arose" (Anonymous 1940:1).

As in the Potlatch and Bovill area, it soon became apparent that logging companies were the only ones who could profitably remove timber and several rival interests grew in competition in the Marble Creek area. In 1909 Fred Herrick came from Wisconsin to St. Maries and began the Milwaukee Lumber Company, which was the leading logging force in the area until bankruptcy hit in the late 1920s (Sundel 1979:5). In 1912 large-scale logging operations began in the Marble Creek area under Dave Dollar with the use of a steam donkey, supposedly the first one used (Anonymous 1940:3). Marble Creek became a major logging site in the early teens (Crowell and Asleson 1980:129).

In 1917 the Rutledge Timber Company bought the Dollar Company and took over its operation in the area. By this time the Rutledge Timber Company and the Milwaukee Lumber Company owned substantial timber holdings in the Marble Creek area and logging had become a large scale business (Sundel 1979:6).

Other areas of early logging were Big Creek where Fred Herrick's Milwaukee Lumber Company logged, the North Fork of the St. Joe was logged by Mike Bogle and Jerry Callahan, and Slate Creek, logged by the McGoldrick Lumber Company. In the late teens and 1920s, Martin and Lewis Olson logged on the Fishhook drainage (Crowell and Asleson 1980:129).

Gypos, or contract loggers, contracted with various employees and mills to do certain jobs. The Robinson brothers, Henry Sindt's contracting company, and the Sverdsten Company were several private contractors who have worked in the St. Joe area for such companies as Russel and Pugh Lumber, Atlas Tie, St. Maries Lumber Company, Potlatch and Diamond International (Crowell and Asleson 1980:139).

Log drives and later railroad logging were used in the St. Joe area to transport logs. Along with these methods came the use of splash dams, chutes, and flumes.

Log drives down the Kootenai, Pack, Priest, Coeur d'Alene, and St. Joe Rivers began in 1907 and lasted until the early years of the Depression (Crowell and Asleson 1980:129). The log drives especially called for the use of splash dams, chutes, and flumes.

Five splash dams were built on Marble Creek alone, another one on Fishhook and several were located on Slate Creek. After the streams were cleared of debris, the area chosen for the dam was dug out so that thick timber could line the bottom of the dam. Two walls and a gate were built with a wheel and spool on the top to control the gate. The gates were closed until the water built up behind them, then at a signal opened for water and logs to pass through (Crowell and Asleson 1980:130).

Chutes and flumes were used in the St. Joe area on major streams to transport logs downhill to the rivers. Chutes were made of logs and flumes were constructed of lumber and filled with water. The V-shaped troughs were built of logs with 12 inch tops laid side by side down the hill. Remains of chutes can be seen at Chute Creek, Roundhouse Gulch, Rocky Riffle, and Theriault Creek (Crowell and Asleson 1980:131).

A flume was more expensive and difficult to build than a chute, often involving the construction of sawmills at the head of the flume to produce lumber for its construction. Lumber was sawed and floated to the portion of the flume being built. The cost of a flume in 1920 was seven thousand dollars a mile. Parts of the spectacular flume built by C.H. Gregory in 1915 above Adair near the mouth of Ward Creek can still be seen today (Crowell and Asleson 1980:131).

The accessibility of the Milwaukee Railroad to timber stands eventually led to the construction of several railroad logging spurs in the area. Milwaukee Land Company operated the first logging railroad in the St. Maries River drainage. The McGoldrick Lumber Company built more miles of logging railroads into the area than any other lumbering company. "Its two major systems were lines into the upper tributaries of Hangman Creek in the southwest part of Benewah County and a system which extended into the numerous tributaries of Upper Santa Creek from the company's headquarters camp at Emida" (Strong and Webb 1970:125). Other companies which built and used systems of railroad logging in various locations were the Milwaukee Lumber Company, Winton Lumber Company, Rose Lake Lumber Company, Blackwell Lumber Company, and St. Maries Lumber Company (Strong and Webb 1970:125). "The most dramatic logging railroad in the area was built by Rutledge Lumber Company over the Marble Creek-Elk Basin Divide in 1927. This seventy percent gradient on Incline Ridge plunged breathlessly down the slope to Clarkia. During the season of 1923, 21 million feet of logs went out over the incline, but in spite of that impressive figure, the operation was thought to be unprofitable" (Crowell and Asleson 1980:133). In the Upper North Fork drainage, a spur a mile long went up Railroad Creek. Heisler and Shay locomotives carried large volumes of logs to Bogle Spur. "In its prime in 1915, thirty carloads of logs a day were shipped out of the Bogle Spur where four sidetracks stored the cars. This spot prospered as a tiny settlement" (Crowell and Asleson 1980:134).

Lumberjacks came to the Northwest from everywhere--Michigan, Minnesota, Wisconsin, Arkansas, New York State, Italy, Sweden, France, and Russia. Usually single, often drifting from camp to camp, the men would work 10-16 hours per day. They wore Wright's black wool underwear, overalls, caulked boots, and wool socks. Bunkhouses often had no floors, springs, or mattresses, and the double bunks were lined with 3 inches of boughs or hay. A brief description of a logging camp on Marble Creek in 1900 follows:

Life was extremely hard for the men who began the logging operations on Marble. The lumberjack camps were equipped with the bare minimum of human beds. The bunk beds built by all four walls of the cabin surround a pot belly stove in the middle. The floor was either dirt or rough cut lumber and smell from the drying clothes and cork soled boots filled the air. Washing was done in 5-gallon kerosene cans. The beds were usually just flat boards and you were considered lucky if you obtained some straw to pad it with. The room was poorly lighted and the men seldom did anything more than play a little cards, reading, or letter writing. According to Charlie Gregory, the men didn't even consider a bath more than once a week because if you did bathe more than that it was just plain un-

healthy...Most of the bunkhouses had no floors, neither did the cook houses. The food was not too good. You took baths in the creeks. There were no screens on the cookhouse windows or doors. Wobblies with their strikes and sabotage corrected all of that. Nowadays, the camps are clean as most homes, plus laundry facilities (Anonymous 1940:14, 20).

Logging camps of the Potlatch Lumber Company in the Potlatch-Bovill area were often rail camps "constructed from rail box cars which were altered to include kitchen, dining room, bunk house, office, and so forth. A complete camp could be moved with one locomotive to a new setting overnight. Some of the camps carried their own water supply, outside toilets, gas lamps, and wood stoves" (Femreite 1979:1).

Potlatch's Camp 38 at Stanford was a rail camp which consisted of "just a bunch of rail cars that were made up with a cook house, bunk houses, and so forth. The water supply came in a large railroad tank car. It only took a few hours to set a camp up like this. This camp started in the spring of 1942. It closed down in 1944" (Femreite 1979:8).

A camp made out of tents, such as Potlatch's camp number 34 was called a rag camp (Femreite 1979:6).

When Camp 43 was closed in 1952, buildings were hauled away. "The cook house was moved to the Troy-Deary Gun Club and today is a real nice gun club" (Femreite 1979:11).

SETTLEMENT AND AGRICULTURE

Settlement

Settlement is a topic which has, in part, been discussed in most of the other themes. Mining, logging, transportation, and the development of government agencies have all contributed to the settlement of north Idaho and northeastern Washington. People were most often drawn to the project area for economic reasons. The idea of actually settling in the area may not have entered the minds of early miners, loggers or railroad workers; however, many stayed, bought or homesteaded land, and raised their families here. Others came specifically at the prospect of obtaining cheap land or to homestead. Improved transportation encouraged this flow of settlers by providing access to areas of settlement and resource exploitation.

There were several ways in which land could be obtained by settlers. One of the more popular routes taken was homesteading under one of three federal acts. The first of three homestead acts affecting the project area was passed in 1862. This measure, the Homestead Act of 1862, permitted the acquisition of 160 or less acres of unappropriated public land to qualified persons. To qualify, a person (male or female) had to be 21 years old, the head of a household, a U.S. citizen or have declared his or her intent to become a citizen (U.S. Government 1863:392). Requirements of homesteading included the payment of a small fee when the pre-emption claim was filed, occupancy of the homestead for five years, cultivation of a certain number of acres, and construction of a house. Prior to filing the pre-emption claim, the piece of land had to be surveyed by the General Land Office.

The five-year occupancy was probably the most difficult requirement of the act, since it was usually some years before the homestead could actually support the occupants. Often a man would have several outside jobs while his wife did the work of actually running the homestead. (See "Homesteading Patterns" section, *Oral Traditions Overview*). Some families would have to leave for a portion of the year to find work elsewhere. The act did allow the homesteaders to be absent from their claim for six months and still qualify for residence. Verification of this residence had to be made by witnesses to government officials before the homesteader was granted deed to his or her claim.

The first land claimed under this act were the fertile valley bottoms. Later homesteaders were left with less desirable acreage with more difficult access. According to oral history informants, these claims were often marginal lands in the hills or in areas where there was a significant amount of timber that had to be cleared.

The second piece of federal legislation to affect settlement in the project area was the Timber and Stone Act of 1878. This act was not specifically designed for homesteading, but it did have that effect. Passage of this act was a significant move by the government to control wholesale timber cutting and quarrying on public lands. Its objective was to provide timber and stone resources for mining and domestic use (Hibbard 1939:463). Although the act was specifically aimed at miners, it benefited settlers by granting each claimant 160 or less acres for \$2.50 an acre. The main drawback to the homesteader was that this was nonagricultural land and thus it was very difficult, if not impossible, to support oneself on such a claim. These claims also tended to be fairly remote with poor access. Although these features added to the ineffectiveness of this law, the major reason it failed in its objective was the ease by which fraudulent claims were made. Many entries were fraudulently claimed only to be sold again to timber and other speculative interests. Before the government could put a stop to such activity, hundreds of acres of public domain fell into the hands of these speculators.

The third homestead act to affect the project area came only after the government had placed vast portions of the public domain into forest reserves in 1891. These reserves were established in an effort to protect and manage the country's forest resources. The intent of this piece of legislation was not to include agricultural lands; however, many acres of such land were located within the reserve boundaries. At this time, there were also many settlers on these reserve lands who had not filed homestead claims because the areas had not been surveyed by the General Land Office. As a result, these settlers were left with no way of securing title to the land they had been developing and waiting to claim. As the years passed, pressure mounted from these and other settlers to permit homesteading on agricultural lands with the forest reserves. This pressure culminated in passage of the Forest Homestead Act of 1906.

This act required the government to survey and list all agricultural lands within the national forests. Once these lands were surveyed, they could be homesteaded. Individuals who had settled in the area prior to the formation of the forest system were given preference, although any valuable timberland or mineral resources were excluded. As put by the government, "the Forest Service is anxious that there shall be as many permanent settlers as possible within the Forests, but passage from the possession of the Government of valuable timberland or other natural resources for speculative purposes, under the guise of homesteads, will not be tolerated" (U.S.D.A. 1908:1). As a result, the fraudulent activity that plagued the previous homestead acts was virtually nonexistent.

To secure a homestead under the Forest Homestead Act, the claimant was required to pay a per acre filing fee, occupy the claim for several years, cultivate the land, and construct a house and outbuildings. These requirements had to be met in order to secure a homestead because the act had no provision for commutation or for purchase. Most of the creek and river bottoms and meadows within the forests were homesteaded. Not all of these attempts were successful, however, and today the remnants of many homesteads are once again under the management of the Forest Service. Settlers could sell their lands once they had proved up on their claims, and according to interviewees, many people gained homesteads in this way. "There was a lot of them who came here and took up a homestead. It was a pretty hard life and they would sell their rights to it - it was called a relinquishment. They would sell their relinquishment to someone else who would come in and take over their homestead. There was quite a little of that" (Space I,B,7-7:30). If these methods did not seem desirable or if federal land was not available, acreage could be purchased at low prices from lumber companies and railroad corporations.

The railroad companies first promoted settlement in the Inland Empire during their construction when new towns were established as the lines progressed through an area. For a time, some of these towns functioned as railheads or supply points for construction materials, food, and maintenance. Gradually, as the railroad line proceeded, new railheads were established and goods, equipment, offices, and laborers were moved on. However, in many instances, abandoned railhead communities continued to exist and some became the permanent homes of the railroad workers. Elmira and Naples in north Idaho were railroad communities supposedly settled by Italian laborers involved with the construction of the Great Northern. Today, many of the communities that sprang up along the railroad line in hopes of becoming "the" town are now merely signs along the track. Many, however, have maintained some community spirit, although they will probably never become towns of any size.

The railroads influenced settlement again when they offered land for sale at extremely low prices. During the 1890s and early 1900s, the railroads placed large tracks of their grant lands for sale and advertised them all over the country. Along with the low land cost, the railroads offered relatively inexpensive transportation to the areas in question. At the same time, large timber companies were offering potential agricultural lands for sale at low prices. These lands had been cut over by the companies and were no longer of any use to them. Sale of both railroad and lumber company lands not only encouraged settlement, but it also increased the size of the available labor pool which was advantageous for both organizations. Once cleared, these railroad and timber company lands set the stage for agricultural development in certain parts of the project area.

The government did not take a leading role in settlement policy in the years after passage of the Three-Year Homestead Act in 1912. This law provided added incentive for claimants to complete their residence requirements rather than commute their claim.

It was not until the years of the Depression that the government again became involved in the issue of settlement. To be more specific, the issue was resettlement. In an effort to "stop a disastrous wastage of people and of natural resources" (Tugwell 1959:159) the Resettlement Administration was established by Executive Order in May, 1935. Basically, this organization was formed to help farmers, who were in deep economic despair, by purchasing their land and aiding to resettle them in more fertile areas or help retain them for other vocations. Many of the farms involved were on submarginal lands that were designated by the dust bowl conditions of the 1930s. Once this land was purchased by the government, it was allowed to return to its natural state with the hope of slowing erosion and depletion of the soil.

The Resettlement Administration conducted various programs all over the country, and the nature of each varied. The common theme of them all was the conservation of human and natural resources. This organization's greatest impact in the project area was in Stevens and Pend Oreille Counties. This impact manifested itself in the North-eastern Washington Scattered Settlers Project (Hansen 1972:11). This project was divided into two programs: land purchase and land development. For reasons not all together clear, a large section of land in these two counties was selected for participation in the administration's program. Purchase of privately owned submarginal land in this section was deemed beneficial to the county because tax revenues were not supporting schools or road maintenance in the area. Also, it was thought that the program would benefit many individuals who were living in these isolated areas and had no source of income (Hupp I,B,27-30:15).

To administer this program, an office of the Resettlement Administration was established in Newport, Washington, with Erle Hupp as director. The process for purchase of these selected lands included an evaluation of the timber and improvements by the Resettlement Administration. A value was assessed for each piece of land and offered to the owner. Chris Hansen (1972:13), one of the chief timber cruisers, felt that the prices offered were one half of what their fair market values were at the time. Erle Hupp, in contrast, stated in an oral interview, that all settlers were offered a fair price for their land, based on appraisals by highly skilled experts (Hupp IV,A,27:15-32; IV,B,0-7). However, most of the offers were accepted and eventually the Resettlement Administration acquired the lands they had sought. A large portion of these lands were in the Tacoma Creek area of Pend Oreille County.

Another aspect of this administration was resettlement of the people who had sold their submarginal lands. It was hoped that these people could be relocated in areas more conducive to farming or to occupations with a labor market. Overall, 178 families in Stevens and Pend Oreille Counties were relocated or migrated (Hansen 1972:16). Most moved to the towns or valley areas of Stevens, Pend Oreille, and Spokane Counties, but 15 families went to the Matanuska Valley of Alaska, five families went to Maine, and one couple relocated to Oregon (Hansen 1972:16). Farm families from south Idaho were also relocated by the Resettlement Administration to the Kootenai River valley outside Bonners Ferry. After areas of the valley were diked and drained, farms were offered to resettlement farmers. Although many of these families were not successful, a few remain today (Flory III, A, 10:15-22).

The second phase of the Scattered Settlers Project involved land development. This involved the "realignment and betterment of existing roads, construction of new roads, building of lookout towers, bridges, culverts, forest trails, clearing of firebreaks, roadside cleanup and tree planting" (Hansen 1972:18). Crews from the Resettlement Administration were aided in these tasks by workers of local WPA camps.

Two years after the Resettlement Administration was established, the organization was reorganized and renamed the Farm Security Administration (Tugwell 1959:160). The goals of this administration were so changed over the years that it became unrecognizable as once being the Resettlement Administration.

Most of the lands that were acquired by the Resettlement Administration in Stevens and Pend Oreille Counties were eventually placed under the management of the Forest Service. Some 40,000 acres are now administered by the Fish and Wildlife Service (Hupp

Agriculture

The development of agriculture has affected each of the project counties to varying degrees. However, very little general information was available to the researcher explaining the changes in and spread of agriculture in this project area. In other words, a synthesis of this nature was not available. There was, of course, more information on agricultural development in the Palouse region than any other area; but this area is not typical of the entire project region. As a result, the bits of agricultural information that were gleaned from various resources are included in the settlement discussion for each county area. To attempt to give the reader a better understanding of the development of farming in general, the following limited discussion has been provided.

The mechanical age of farming developed parallel with that of the evolution of machines and transportation. Hand farming tools such as the plow went through slow gradual changes over hundreds of years. Then in the early 1800s, faster changes began to take place. By the mid-1800s, companies such as John Deere were making strides in the efficiency of steel plows. These tools were being pulled by horses or mules for the most part. Also, by this time, new pieces of equipment such as grain threshers were being developed. Machines of this type were first operated by treadmills which were then replaced by steam engines or tractors. The threshing machine was eventually replaced by the "combine" harvester-thresher. The first combines were pulled by teams of horses numbering upwards to 30. Eventually, the horses were replaced by steam tractors and later by gasoline or diesel tractors. By the 1940s, the combine had become the dominant harvesting machine, although some farmers had gone back to their horses and mules and older farm equipment during the 1930s when they could not afford the gas and oil for their engines.

Since World War II, there has been a rapid increase in the mechanization of farming. An important factor in this development has been the electrification of rural areas. This task has been the main function of the Rural Electrification Administration since its inception in 1935. When the agency was established, fewer than half the farms in the United States had electricity. Today, very few are without it.

Another factor that has increased the growth and mechanization of farming has been the improvement of transportation. With better rail, road, and river transport, goods have not only been able to reach distant markets, but farmers have been able to receive new equipment and information more quickly.

STEVENS COUNTY

The history of Euroamerican settlement in what is today Stevens County began in 1825 with the establishment of Hudson's Bay Company's Fort Colville. At this time, agriculture and livestock raising began in the Colville valley.

Miners rushing to the gold fields nearby in the 1850s often returned to settle in the Colville area. In 1864, the *Walla Walla Statesman* reported that the crops of wheat and oats from the valley were excellent and 50-75 bushels of grain had been raised, while in 1868 it reported that a large amount of wheat was grown, the valley was full of hops, and stock was increasing rapidly to 30-75 head per farmer. The valley soon became known for its grain, fruit, hay, and stockraising, as well as the number of mines and marble quarries which were claimed to be the richest in the world. Orchards grew along the Columbia River and stock and hay could be found in abundance in the Pend Oreille valley (Anonymous 1904:100).

In 1871, the Colville valley had 91 residences and was the most populous portion of the Stevens County area. The population of the entire county at the time was 1,000 (exclusive of Native Americans) and the voting population was less than 300 (Anonymous 1904:85). The metropolis of the area was Pinkney City, an establishment which had grown up around the U.S. Army post of Fort Colville and served as the first county seat. In 1880, John U. Hofstetter and others platted a townsite three miles south of Pinkney City and named it Colville. Colville then became the county seat of Stevens County, and by 1900 had a population of 594, growing to over 800 in three years (Anonymous 1904:128).

Other towns platted in Stevens County included: Kettle Falls, August 1889; Chewelah, March 1884; Meyers Falls, September 1890; Marcus, June 1890; Northport, May 1892; Addy, January 1893; Newport, August 1897; Cusick, May 1902 (Anonymous 1904:128).

FERRY COUNTY

Settlement in the Ferry County area began first with miners, soon followed by homesteaders and farmers. Set off from Stevens County in 1899, by 1900 a total of 4,562 people resided in Ferry County (Anonymous 1904:401).

Republic

"The story of Republic Camp for some time after its establishment is, practically, the history of Ferry County. It was the only settlement of note in the territory not comprised in the county of Ferry for many months..." (Anonymous 1904:412). When the north half of the Colville Indian Reservation was opened for mineral entry, there was a rush to the placer gold deposits in the vicinity of Republic, then called Eureka. The first business house was established in 1896 and the first building constructed in 1897. In the spring of 1898, 2,000 people arrived in Republic within two months as news of the gold strikes were reported daily (Anonymous 1904:412-414).

Danville

Danville is the oldest town in Ferry County, first settled by Peter B. and O.B. Nelson in 1889 for the purpose of trading with the Native Americans. In 1899, Danville townsite was platted by Danville Mining Company and in 1904, 200 people lived in the town. Danville is situated in mining and agricultural country (Anonymous 1904:428).

Keller

With the opening of the south half of the Colville Indian Reservation to mineral entry in 1898, Keller was established on the Sanpoil River six miles north of its confluence with the Columbia. The new town quickly became the central supply point for the rush to the south half. By November of that year, three general stores, two lodging houses, a feed stable, blacksmith shop, and butcher shop had been built and twenty cabins were under construction. The years 1899 and 1900 were prosperous ones for Keller, and the town reached a population of about 600 (Anonymous 1904:425).

Orient

In 1904, Orient was the youngest town in Ferry County, having been platted in 1902 by the Orient Improvement Company for the purpose of developing the mining district. The town was named Orient after the nearby Orient mines. With a population of 150, Orient then had two general stores, hotel, restaurant, a newspaper, meat market, blacksmith shop, saw and planing mills. "The town is situated in the midst of an auspicious mining and lumbering district, and agricultural pursuits are carried on to a considerable extent. Exports from Orient are ore, lumber, hay, oats, wood, and mining timber" (Anonymous 1904:426).

Curlew

In the vicinity of Curlew were Ferry County's richest agricultural lands, and with the opening of the north half of the Indian reservation to homesteading in 1900, there was a rush of settlers into the area. The land near Curlew Lake was in great demand, as was timberland east of Republic. During the first two days of the opening "two hundred homestead entries had been recorded in the land offices at Republic, Waterville, and Spokane, and the filings continued to pour in for some time afterward" (Anonymous 1904:411).

PEND OREILLE COUNTY

Euroamerican settlement in Pend Oreille County was slow chiefly due to its isolation and lack of transportation. Settlers prior to 1880 were not unknown, but they were few and far between. Early miners (1860s) secured their supplies via trails from Ft. Colville. As settlement increased in the 1880s, a dependence on the Pend Oreille River developed. More supplies and people were transported overland from Spokane to Rathdrum and on to Albeni Falls, where they could catch a steamer or row down the river to their destination.

Settlers in the late 1880s were drawn to the Kalispel valley and other low-lying lands bordering the Pend Oreille River and other area streams. These people would also go to and from Spokane via Rocky Gorge in addition to the Albeni Falls route (Dinger 1979:16). Settlement increased in the early 1890s with the construction of the Great Northern Railroad through the southern part of the county. This construction resulted in the growth of Newport, which became a railroad depot and a settlement for workers from the railroad. This railroad also enabled the growth of agriculture in Pend Oreille County, much of which developed in the Cusick Flats-Calispel Lake areas. These lands lent themselves to agriculture and soon oats were being grown along with wild grass hay (Pend Oreille County Rural Development Commission 1969). At the same time the industry was developing in the county. Products such as milk, butter, cream, and cheese were being produced and sold to local mining and lumber camps. Much of this activity was centered in the Cusick and Usk areas. In addition to these activities, cattle were also being raised on a small scale in the Pend Oreille valley.

Although mining in the county began in the 1880s, it never developed into the economic mainstay that it did in the Coeur d'Alenes. The lumber industry was destined to be the economic backbone of this Washington county. Logging began on a small scale in the 1880s, but it was not until the turn of the century that it took on the economic importance that we know today. By 1900, the large Great Lake lumber companies were in the area exploiting the forest resources. The population of the county increased as this industry provided more jobs. Homesteading in the northern part of the county also increased in the early 1900s when the area was surveyed by the government.

By 1910, a railroad was completed to Metaline Falls which provided transported forest products, mineral concentrate, and cement to market. Around this time, a wagon road was also completed which spanned the full length of the county. As transportation increased in the county, the number of post offices decreased. At one point, there were 27 post offices in the county and by 1961, there were only seven (Barker 1979a:41). Today's post offices include Newport, Usk, Cusick, Tiger, Ione, Metaline, and Metaline Falls. Past post offices include these and previously mentioned additional ones at Camden, Scotia, Sacheen, Tweedie, Penrith, Furport, Dalkena, Lenora, Freming, Crandell, Calispell, Locke, Jared, Ruby, Blueslide, Yocum (later Lost Creek), Crescent, Tiger, Sullivan, and Big Meadows (Barker 1979a:41). Most of these defunct post offices were established during a time when transportation in the county was limited. As a result, there was a need for small communities to provide goods, services, and schools to these remote areas. As transportation improved, the need for many of

these smaller communities decreased and goods, services, and schools were centralized in the communities that offered good access and economic benefits. Some of the communities that remained were, for example, the locations of sawmills and other manufacturing enterprises. The site of such an activity has determined whether or not a community exists. Dalkena was just such a town. When the mill burned and was not rebuilt, the community slowly began to disappear.

Today, the backbone of Pend Oreille County's economy is the wood products industry. Communities such as Metaline Falls and Metaline are supported to a great extent by the production of cement and some mining. The Calispell Lake area is supported by agriculture and dairying, but it is not a dominant economic force in the economy. Although the Pend Oreille River is no longer used to transport people and logs on a steady basis, it is the producer of power. Dams have been built at Box Canyon and along the international border with such facilities. Although the Milwaukee Railroad is no longer functional, local residents formed their own Port Authority and are currently operating the Pend Oreille Valley Railroad on former Milwaukee Road lines. Good transportation is also maintained through the state highway system.

BONNER AND BOUNDARY COUNTIES

The first settlements in Bonner and Boundary Counties were at crossing points along the Pend Oreille and Kootenai rivers. These locations were known as Seneacquoten and Bonners Ferry. Each served as a supply point as well as a ferry crossing along the Wild Horse Trail in the 1860s. Seneacquoten possibly had served, in earlier times, as a fur trade depot and a stopover point for traders and travelers along the Pend Oreille River. In later years, it was a supply point and headquarters for the Boundary Commission and the Northern Pacific Railroad construction crew. Seneacquoten was also the site for the construction of the steamer *Mary Moody*, in 1864, which was commissioned by the U.S. government as a mail carrier (Anonymous 1903:765). During the same year, Seneacquoten was designated as the seat of the newly formed Kootenai County.

By the early 1870s, the community of Westwood (Rathdrum) was established. Used as a railhead for the Northern Pacific Railroad, it was due to become the next seat of Kootenai County. By the 1880s, the community and the county began to grow as the Northern Pacific Railroad was built and when gold, lead, silver, and zinc were discovered in the Coeur d'Alenes and to a lesser extent in the Lake Pend Oreille area. Many communities developed as a result of the Northern Pacific Railroad construction of which Sandpoint, Clark Fork, Hope, Sagle, and Algoma are all examples. Similar communities sprang up along the Great Northern Railroad and Spokane International Railroad lines (see Appendix D for a list of post offices in northern Idaho).

Construction of the *Mary Moody* was the beginning of steamer travel in the area. Supplies, mail, and settlers were able to circumvent long muddy "road" trips via the steamers on Lake Pend Oreille and Pend Oreille River. The popularity of these steamers decreased as other transportation systems improved.

The 1880s also saw the introduction of steamboats along the Kootenai River. Construction of the Great Northern Railroad brought increased river traffic to Bonners Ferry by making national markets available through its transcontinental system. Other towns such as Priest River benefited from the construction of the Great Northern Railroad. This community was a supply point that developed into a community of railroad workers who were mainly Italian. Later, development resulted in the town that was and is economically dependent on the timber industry.

Interest in north Idaho's fine stands of timber were attracting the attention of lumber concerns from the Great Lakes area. When these companies moved into the area in the 1890s, the lumber industry rapidly expanded. Large mills were built in Priest River, Dover, LeClerc, and Sandpoint. Now settlers came to the area because there was an increase in employment. Since there were so few homes to live in at the turn of the century, the Humbird Lumber Company built their own and rented them to their employees (Norlen 1976). Several of the large lumber companies constructed these milltowns for their employees. Humbird was also one of the chief companies who sold cutover land to settlers. Parcels of this land were known as stump ranches because the tracts were nothing but acres upon acres of stumps. Many of the people who purchased stump ranches did not last long on this land because the task of removing stumps was back-breaking and did not provide an income. As a result, the settler usually had an outside job which was, frequently, for the lumber company that sold them the land. Too often, this combination of hard labors was too much to bear and many of the ranches were abandoned. However, as the stumps were removed, the way was cleared for crops and cattle raising.

The sale of cheap railroad land also lured settlers to this area. These lands were in the fertile valleys which prompted agricultural development. Areas such as Blanchard and Spirit Lake have been the scene of this activity. Although cattle raising and agriculture have not been particularly influential in Bonner County economics, they still have played a role.

Agriculture in Boundary County, on the other hand, has had a distinct impact on the economy. Large scale farming operations in Boundary County did not get underway until the Kootenai River valley was diked and drainage districts were formed. Readily available information on this project is practically nonexistent except that the draining did

happen sometime in the early 1930s. Boundary County produces some of the highest yields per acre in the entire country with wheat and barley as the principal crops. Oral history interviewees such as Alvin Flory have suggested that these agricultural enterprises and others might have been more influential if the area had been closer to potential markets and transport costs less (Flory IV,B1-5:45).

The dominant factor in economics and settlement in the two county areas has remained the wood products industry. Although the railroads did provide an outlet to eastern markets for farmers and encouraged settlement, it has been the timber industry that kept people in the area. This is somewhat diversifying today, especially with increased tourist trade, but the wood products industry still maintains its economic grip.

KOOTENAI AND NORTHERN SHOSHONE COUNTIES

The chief impetus for settlement in the Kootenai and northern Shoshone counties area was mining. This was later followed by agriculture and logging. One of the first communities in the area was Westwood or Rathdrum which was initially a mail station in the early 1870s. During these early days, Rathdrum became a stopover point for most travelers passing through the Idaho Panhandle. Much of this traffic moved over the old Wild Horse Trail which proceeded from Spokane Falls through Rathdrum and northward to Seneacqoteen. Early settlers in the lower Pend Oreille Valley also made their way from Spokane Falls via Rathdrum. The importance of this community grew with the construction of the Northern Pacific Railroad in north Idaho. Construction supplies, food, and mail all came through this expanding town. Miners from the Coeur d'Alenes also received supplies and mail from and through Rathdrum. By this time, Rathdrum had become the seat of Kootenai County. However, the seat of county political power was not destined to remain in Rathdrum. The establishment of a military reservation on the north shore of Lake Coeur d'Alene was the beginning of a new community which would eventually become a stronger political force than Rathdrum.

This 999-acre military reservation was established in 1878 and was called Ft. Coeur d'Alene until 1891 when the name was changed to Ft. Sherman in honor of General Sherman (Coleman 1968). One of the first operations to take place at this fort was the assembly of a sawmill. Although this was not a commercial operation, it did produce all the lumber needed for the numerous buildings constructed at the fort. Excess lumber produced by the mill was sold to the settlers who had gathered in the community forming around the fort. Construction of the Northern Pacific Railroad and building needs in the mining districts of the Coeur d'Alenes prompted the construction of commercial sawmills.

One of the first was built at Post Falls followed by smaller operations in and around Rathdrum and in the mining communities of north Idaho. These mills were small, particularly compared to the lumber mills that were built around the turn of the century.

As mentioned before, mining was the initial direct impetus for settlement in northern Shoshone County and indirectly in western Kootenai County. Placer gold claims were discovered in the Prichard Creek area in the early 1880s. This discovery started a rush of miners to north Idaho which was soon followed by blacksmiths, shopkeepers, loggers, and farmers. Each of the latter individuals offered a service or commodity that was needed in the new mining camps that were springing up overnight. The problem with placer mining communities was that they usually had a short life span (see Mining section). Such was the story for many of the new towns in the Prichard Creek area. When the gold played out, the miners and support trade individuals moved on. Some of the towns that were established as a result of the placer gold rush in the Prichard area were Littlefield (1884), Raven (1884-86), Thraid or Myrtle (1885), Prichard (1883), Eagle (1883), Murray (1884), and Delta (1884). Of these, Murray and Prichard are still active communities.

Many of the miners that left the Prichard area moved over to the South Side (the South Fork of the Coeur d'Alene River). Here, in the mid-1880s, silver, lead, and zinc were discovered. Some of the communities that developed as a result of the silver, lead, and zinc industry were already established and serving the Prichard area when the South Side discoveries were made. However, most of them developed into permanent communities as a result of these discoveries. Towns such as Wardner, Osburn, Wallace, Gem, Burke, and Mullan were established between 1884 and 1886 to serve the mining areas of Milo Creek, Big Creek, Ninemile Creek, Canyon Creek, and Mill Creek just to name a few. Today, Pinehurst, Kellogg, Warner, Osburn, Silverton, Wallace, and Mullan survive to a large degree because of the mining and smelting industry that has developed here over the past 100 years.

Mining indirectly affected settlement in western Kootenai County by providing a market for agricultural goods, lumber, and supplies. Rathdrum not only served as a supply point for the mines but it also served as the center of a young agricultural community. At the turn of the century, wheat, oats, hay, vegetables, and fruit were the principal products of this area, in addition to some cattle (Anonymous 1903:786). Although Rathdrum continued to be an important agricultural center in the late 1880s and 1890s, it decreased in popularity as a supply point when the Northern Pacific Railroad extended its line from Hauser Junction to the lakeshore at Coeur d'Alene. This change, coupled with moving the county seat to Coeur d'Alene, continued to reduce Rathdrum's importance in county history.

Coeur d'Alene was not only developing as a supply point, but it was also gaining popularity as a resort community. By the 1900s, Coeur d'Alene also became an important mill town and supply point for a slowly developing agricultural community in the southern portion of the county. Many farmers had come to the southwestern part of Kootenai County when the Coeur d'Alene Indian Reservation was reorganized and the northern portion was opened to Euroamerican settlement in 1891 (Livingston-Little 1965:62). This part of the county, more than any other, was suited for agriculture because of its rich soil.

The 1890s was a period of agricultural expansion in north Idaho. This expansion was aided by the opening of reservation lands and improvements of transportation. Access to distant markets were made available to farmers via the railroads and steamship lines in the Inland Empire and along the Snake and Columbia Rivers (Livingston-Little 1965).

While agriculture developed in the southern part of Kootenai County, the timber industry began to expand in the eastern portion and in Shoshone County. Prior to the mid-1890s, the timber industry was limited to tie operations for the railroads and small mills providing local lumber markets. However, with better roads and railroads providing access to eastern markets and growing regional communities, the timber industry began to take on greater importance. Large lumber mills were built in Coeur d'Alene, Harrison, and Rose Lake. Harrison became the site of numerous mills by the turn of the century as logs were floated down the Coeur d'Alene River from the forests of the North and Main Forks. Logging continued to expand in this area until the 1920s when north Idaho experienced a general slowdown. Mills had been closing for some time including most of the operations in Harrison. Unfortunately this community never regained its prominence as a mill town. It, too, was overshadowed by Coeur d'Alene which maintained its mill, which is now operated by the Potlatch Corporation. Harrison did, however, remain an agricultural center as it is today, in addition to its new role as a resort community.

Kootenai County experienced a surge in settlement in 1909 and 1910 when the Coeur d'Alene Indian Reservation was opened for Euroamerican settlement. Prior to opening the reservation, each of the Coeur d'Alene Indians was allotted 160 acres. Soon after this allotment program was completed, a special land office was set up in Coeur d'Alene to receive the applications of persons wishing to settle on these newly-opened lands. Registration continued from July 15 through August 15, 1909, and four days later a lottery was held to determine which of the more than 100,000 applicants would be one of the 2,500 prospective homesteaders to be drawn (Dozier 1962:147,149). The homesteaders' names were listed numerically by the order in which they were drawn. The first person listed had first choice for selecting the land he wished to settle and so on down the line. By May 17, 1910, some 1,350 plots of land totaling 219,767 acres had been awarded to the new homesteaders (Dozier 1962:149).

A great many acres of this land were primarily agricultural, and they were added to the already successful community farming in the Palouse area. Worley is one of the towns that has grown as a result of the development of agriculture in the southwestern part of Kootenai County.

Today, Kootenai and northern Shoshone Counties are still economically influenced by mining, timber, and agriculture. Mining has a much greater influence in Shoshone County than in Kootenai, whereas agriculture is more influential in the latter county than in the former. The timber industry is economically important in each county and, to a lesser degree, tourism and recreation have become economic factors.

SOUTHERN SHOSHONE COUNTY

As late as 1885, the Mullan Road and the St. Joe River, with no bridges, were the only routes into the St. Joe valley (Scott 1967: 80). With improved river transportation and increased interest in timber resources (Scott 1967:46), homesteaders came into the St. Joe valley and filed claims under various pieces of legislation. The earliest claims along the St. Joe River were those registered under the Homestead Act of 1862, and with the Timber and Stone Act of 1878 a large number of homesteaders entered the valley claiming land. Most homesteads were filed before 1900, primarily in the 1890s. However, the Forest Homestead Act of June 11, 1906, also attracted a significant number of homesteaders to the St. Joe area (Crowell and Asleson 1980: 21).

The earliest settlers were single men (Scott 1967:81), often settling and supplying lumber to mines and merchants of the Coeur d'Alene mines. Midwestern families from logging areas of Michigan, Minnesota, and Wisconsin soon followed, coming largely because of the advertised timber lands (Crowell and Asleson 1980:21). Some settlers coming to the St. Joe area had looked at the Palouse country for farming and thought the hillsides too steep to plow with a horse. They later discovered that steeper land was sometimes better, and that the lowlands on the St. Joe were not suited for growing wheat (Scott 1967:155).

The St. Joe River valley was quickly settled and a number of towns and communities grew up. Marble Creek, Trout Creek, and Big Creek were also settled, and, later, Slate Creek, the North Fork, Loop Creek, and Forty-nine Meadows (Crowell and Asleson 1980:21).

Marble Creek

In 1906 the flat of Marble Creek consisted of only three cabins belonging to homesteaders. As the railroad survey crew, followed by construction crews, passed through Marble Creek, a large camp was built as a supply depot. Soon after, logging became an important industry and quickly the settlement came to consist of stores and saloons for the lumbermen (Crowell and Asleson 1980:24). By 1910 there were enough homesteaders in Marble Creek to warrant their own voting precinct and justice of the peace (Crowell and Asleson 1980:21). "Today logging still is important to the several residents of Marble Creek, and a small mill owned by Tom McQuade remains in operation. Its two businesses, Marble Creek Service and Ragan's Golden 20's, now cater both to loggers and the increasing number of tourists" (Crowell and Asleson 1980:24).

Avery

In 1894 Sam Williams claimed land at the confluence of the North Fork of the St. Joe and the St. Joe River, developing his claim to agricultural land. In 1905 the first ranger station in the area was built three miles below Williams' claim. The ranger station and post office made up the town of Pinchot. When it became obvious that the Milwaukee Railroad was going to go through Pinchot, the station and post office were moved to a portion of Williams' claim. In February of 1910, this settlement of Pinchot officially became named Avery.

The settlement had been growing with new families and new businesses. The Theriault's Mountain Park Hotel attracted tourists. The Swansons moved from Jamestown, North Dakota, and the Craigs settled from Kenova, West Virginia. During railroad construction, a Japanese settlement of nearly eighty people was established in Avery, where many individuals remained until the 1950s (Crowell and Asleson 1980:33).

The new transcontinental railroad chose Avery as its division point, and by 1909 local businesses were thriving and new ones were opening daily. Avery continued to grow until its population reached a peak in 1917 with 1,100 people. As a major railroad installation, it supplied a variety of goods and services to local residents and to Forest Service personnel, prospectors, trappers, and lumberjacks living outside of town. Stores and businesses flourished during this period, as local merchants and entrepreneurs provided most of the necessary merchandise and services (Crowell and Asleson 1980:36-40).

"The worst blows to Avery have come from the institution that created the town, the Milwaukee Railroad. Increased mechanization brought about many changes that affected the town. After 1917 and the completion of the substation, the population began to shrink. The car shop gradually

shriveled from 80 employees in 1917 until it closed in 1959" (Crowell and Asleson 1980:50). Passenger service was discontinued on May 21, 1961. In 1979 the roundhouse was destroyed for salvage. Today Avery's livelihood is based on timber for loggers and Forest Service personnel (Crowell and Asleson 1980:51).

Small settlements and communities

Small settlements and communities lined the St. Joe River from the early twentieth century. Garcia, later called Zane, was a camp or town in 1907 and 1908. The St. Joe's first schoolhouse was located as the small settlement of Gordon. The structure was later used as a bunkhouse for men driving logs down the river. At the mouth of Hugus Creek was the Remington post office which opened in the early 1900s to serve local settlers. Business at Elk Prairie, beginning with a small store and dining room with several bunkhouses for rent, boomed after the Chicago, Milwaukee, and Puget Sound Railway surveyed the St. Joe in 1906 and decided to lay track along the river. The railroad changed the town's name from Elk Prairie to Calder, and it continued to grow, especially between 1916 and 1970 when the Mica drainage was logged by the St. Maries Lumber Company. Several summer resorts were established at the turn of the century, among them were McCormack's, three miles upriver from Elk Prairie, and Pyle's Ranch, on the north side of the river a mile up from McCormack's. Herrick, just above Pyle's Ranch and the mouth of Big Creek was a small logging town prior to 1927 (Crowell and Asleson 1980:22-23).

BENEWAH COUNTY

Cattlemen were the earliest group of homesteaders in the upper St. Maries River, establishing the towns of Santa, Emida, Fernwood, and Clarkia and locating homesteads on various tributaries of the St. Maries River (Scott 1967:44). "The dwellings of these stockmen were often pretentious buildings of logs, shakes, and split-cedar puncheon floors. Usually they were erected on a low, rounded hill or point overlooking a meadow or small stream, and commanding an inspiring view (Scott 1967:45). Today, stock are brought into the country in the spring and driven out in the fall (Scott 1967:45).

In the Camas Cove mining district, the town of Tyson had grown from a stock ranch to a well-populated town with regular stages running between St. Maries and Tyson (Boreson 1977:10). In 1900 a rush for placer gold on Tyson Creek brought thousands of prospectors up the St. Maries River to Santa, Fernwood, Clarkia, and Emida and the entire area of Tyson Creek, Santa Creek, Emerald Creek, Beaver Creek, and Carpenter Creek were thoroughly prospected (Boreson 1977:11). Mining development in the area was extensive, but did not continue long. By

1909, the Tyson post office was moved to Santa (Schell 1973:105).

Settlement in Benewah County was also influenced by the land rush on the Coeur d'Alene Indian Reservation. As explained previously, the reservation was opened to settlement in 1909 after a lottery took place to determine which of the prospective homesteaders would be eligible to select land tracts. Much of this area was part of the rich Palouse farming region which had been producing crops such as wheat for some 20 to 30 years. The new area of settlement had already proved to be a choice livestock and crop region supporting such communities as DeSmet and Plummer (Livingston-Little 1965:58). Today this region is still economically tied to agriculture in addition to the timber industry.

St. Maries

St. Maries was first settled in 1889 when the Fisher family settled at the junction of the St. Joe and St. Maries rivers and built a small sawmill, selling their lumber to Coeur d'Alene miners, merchants, and settlers of the St. Joe. Joseph Fisher platted the town and with the construction of the Chicago, Milwaukee, and Puget Sound Railroad and the increased logging industry in the area, St. Maries had a population of several hundred by 1910 (Crowell and Asleson 1980:16).

Ferrell

Twelve miles upstream from St. Maries, William W. Ferrell chose a site about 1900 and erected a general store and hotel and divided his land into plots. The site was located below Swiftwater and served as a jumping-off point for those entering the valley. At the peak of its growth, Ferrell boasted a population of over one thousand people, three hotels, three stores, two drugstores, a bank, floating hospital, and lawyer. In 1908 a two-room school was constructed, serving 68 children in eight grades. There were a number of businesses in Ferrell which catered to railway construction workers, loggers, and prospectors (Crowell and Asleson 1980:17). Ferrell declined rapidly when railroad construction began on the opposite bank of the river and St. Joe City grew up (Crowell and Asleson 1980:18).

St. Joe City

With railroad construction attracting people and business from Ferrell, St. Joe City grew. The floating hospital was replaced by one in town, and "Judge" Flewelling increased economic stability in 1908 with the construction of a sawmill. St. Joe City came to depend on the logging industry and when the mill burned down twenty years later, the small city faded (Crowell and Asleson 1980:18).

LATAH COUNTY

The northern part of Idaho was late and slow in development. South of Latah County, the early developments were associated with mining on the branches of the Clearwater, while areas north of Latah County did not develop significantly until the "discovery of the placer and lead and silver deposits of the Coeur d'Alene district and the building of the Northern Pacific Railroad..." (French 1914:173). In the area of today's Latah County, farming and logging soon followed the gold rushes on the Clearwater River. Beginning in the 1870s, farmers began to settle in the Palouse region, becoming known for its fertile prairies. In the Deary and Bovill area, early comers frequently settled in the meadows where natural hayland and pasture were to be found without the hard work of removing timber. It was not long, however, before this timber became a valuable resource and logging began in the area (Miller 1972:5-6).

One of the earliest settlers in Latah County was Asbury Lieauallen who camped in the valley near present-day Moscow in 1872 and determined then to establish his home among the Palouse hills. Settlement began, and on May 14, 1880, by legislative act, Latah County was organized. It was at the time one of the smallest counties in the territory, but it had a larger percentage of tillable land than any other subdivision. "The distinctive feature of Latah County is that it includes almost one-half of the noted 'Palouse Country,' the great wheat-growing region, which in the production of that cereal is not excelled by any unirrigated district in the United States" (French 1914:174). By 1912 wheat production in the county averaged 36 bushels per acre, "a production no other part of the state can equal, and this after the ground has been sowed to wheat for many years" (French 1914:174). It was reported in 1914 that Latah County had eight flour mills and 25 elevators and warehouses for wheat production (French 1914:174). It was also ranked high as a producer of winter apples and apricots; peaches, pears, grapes and other fruits were also grown commercially (French 1914:175).

Latah County in the early twentieth century was also known as a logging area, claiming the largest sawmill in the world built by Potlatch Lumber Company.

Potlatch

The town of Potlatch was built in 1901 by the Potlatch Lumber Company, and in 1914 had a population of one thousand people. The houses were built by the company and rented to those employed in the mill. Streets were named Pine, Locust, Cedar, Elm, and Oak. The company constructed stores, the bank, churches, and provided a furnished library (French 1914:175; Ross 1979:65). No saloon was permitted within the town, as the use of intoxicants by the mill people was prohibited (French 1914:175).

Bovill

Originally named Warren, Bovill was an attraction for sportsmen around the turn of the century as it offered access to fishing and hunting. Slowly, homesteading began in the area, and in 1903 timber cruisers began arriving. In 1907, the town of Bovill was incorporated (Miller 1972:45).

Bovill's beginnings were based on the building of the railroad, which was then followed by logging activity. When the Potlatch Lumber Company built a railroad into the Bovill area, the small town quickly became a center for the company's logging activity. It was a switchpoint for logs which would be routed to the Potlatch mill via the railroad (Miller 1972:81).

The railroad crew was made up partly of Balkan and Italian immigrants who sometimes took on work in the woods as the railroad was finished. A number of professional lumberjacks--many of Swedish origins--came to cut timber in the area. "The business people, skilled workmen, crew bosses--largely family men--built homes in Bovill. Within three or four years there was a sizeable town. By 1914 Bovill was surpassed in size in Latah County, only by Moscow and Potlatch" (Miller 1972:81).

Deary

Until the turn of the century, a wayhouse, known as Carlson, was all that existed on the townsite of Deary. Except for widely scattered cabins, the land east of this site was pure wilderness (Miller 1972:3).

In 1907 a railway station was placed near the way station and called Deary in honor of William Deary of the Potlatch Lumber Company. When the railroad reached Deary, the railway station expanded quickly into a town. "The expansion of Deary can be attributed both to farms and farmers. Yet, a few residents worked in the Potlatch Lumber camps, and a great deal of timber was to be cut, particularly in the region to the north and east. Also, farmers themselves owned considerable useful timber" (Miller 1972:81). By 1914, Deary had two flouring mills, "being, with the exception of Genesee, the only town favored with that number" (French 1914:176).

Troy

For a number of years, Troy was the principal center of supply and communication in the Bovill region (Miller 1972:6). By 1914, Troy was located on the Spokane-Lewiston branch of Northern Pacific Railroad, and had mills for the manufacture of lumber and of flour (French 1914:176).

Farming towns

Kendrick, on the Potlatch River, was considered in 1914 the center of a rich farming country with good railroad facilities. It was distinguished for its apricots and peaches, had a flour mill, and manufactured brick on a commercial scale. Juliaetta, where settlement began in 1878, boasted wheat fields, orchards, and vineyards in 1914, while Genesee, at the center of agricultural activity, was the terminus of the Palouse branch of the Northern Pacific Railroad and had ten warehouses and elevators and two flouring mills. Moscow, founded in 1875, was the center of "this rich district" (French 1914:174).

CLEARWATER COUNTY

In 1911, Clearwater County was created from half of Nez Perce County, and three years later it was still somewhat sparsely populated. At that time, the forests largely covered with white and yellow pine, red and white fir, cedar and tamarack comprised nearly 800,000 acres, most of it federal land (French 1914:218).

Orofino

The mining town of Orofino, a distributing point for the Pierce City mining district, became the county seat of Clearwater County. By 1913, the population was 700 and the town had two sawmills, a brick yard, and a line kiln (French 1914:218).

Elk River

The history of Elk River, as well as Helmer and Clarkia, is closely tied to the logging activities of the Potlatch Lumber Company and to the development of railroad lines by that company (Miller 1972:81). Much like Bovill, Elk River originally began as a way station for sportsmen, backwoodsmen, and miners. Known as the Trumbull Wayhouse, this homestead was the only establishment in Elk River until the railroad was completed in 1910 (Miller 1972:115). With the arrival of the railroad, work was begun on a sawmill by the Potlatch Lumber Company. Completed in 1911, the mill remained in operation for 20 years when a larger and newer sawmill was established in Lewiston (Miller 1972:120).

According to one source, the houses in Elk River were also built by the Potlatch Lumber Company and 100 Bulgarians were "imported" to perform the excavation and dirt-moving in building the mill yards, after which they left to build railroads in the woods (U.S. Department of Agriculture 1944-76:II,66). By 1914, the village of Elk River had a population of 1200 and was situated on the line of the Chicago, Milwaukee, and Puget Sound Railroad with a weekly newspaper, a Methodist church, a sawmill, four hotels, a hospital, a theater, and other business concerns (French 1914:218).

FEDERAL LAND MANAGEMENT AND CONSERVATION

Creation of the Forest Service

Prior to 1878, no distinctions were made between timber land and other public lands. In actuality, there was no legal way to acquire timber or timber land, although timber was needed for homesteads. In 1878, two acts were passed which provided timber for settlers. The Timber Cutting Act was aimed at preventing illegal acquisition of timber and providing for the needs of miners and of settlers. Timber could legally be cut, without charge, from the public domain mineral lands for mining and domestic purposes (Hibbard 1939:463). The main objective of this act was to provide free timber to miners, although settlers were also included (Ise 1930:62).

The same year the Timber and Stone Act went into effect, public lands valuable chiefly for timber and stone which were unoccupied, unimproved, surveyed, nonmineral, or unfit for cultivation, could be purchased at not less than \$2.50 per acre. The act stipulated that the land could not exceed 160 acres per person, the timber and stone must be taken for personal use, and purchase was not to be made for speculation or for any other person. The law was passed to give timber to the settler to be used in conjunction with the homestead and to the miner for improvements. This purpose was abused extensively, as land was transferred to corporations and business (Hibbard 1929:417). Under this act, for example, one lumber company picked up 100,000 acres of timber land. Occasionally, bribery, murder, and other forms of corruption and violence were used by operators to acquire the timber lands (Frank 1955:7).

Interviewees in the project area, and particularly in the Latah/Clearwater Counties region agreed that much of the timberland that was acquired by settlers through the Timber and Stone Act was eventually turned over to the lumber companies. Although no mention of violence was made, these informants did indicate that tactics like company financing of a settler's purchase of the lands or dummy loan companies were used by timber companies to gain control of more timber.

A growing awareness of the depletion of timber resources brought about legislation for federal control of forest lands. The Forest Reserve Act of 1891 provided: "That the President of the United States may from time to time set apart and reserve, in any State or Territory having public land bearing forests, in any part of the public lands wholly or in part covered with timber or undergrowth, whether of commercial value or not, as public reservations, and the President shall,

by public proclamation, declare the establishment of such reservations and the limits thereof" (French 1914:393). This 1891 measure is often considered the most important piece of timber legislation ever enacted in this country, as it definitely provided for national ownership of forest lands (Ise 1920:109).

President Harding wasted no time in creating the first forest under the Forest Reserve Act, and in 1891 the Yellowstone Park Timberland Reserve was established (French 1914:393). The following year, President Harrison proclaimed over 2,437,000 acres of forest reserves. "He and President Cleveland reserved a total of 17,500,000 acres, plus over 3,000,000 acres more for national parks" (Frank 1955:8). In 1897, President Cleveland proclaimed the Priest River Forest Reserve, creating for the first time public forest lands in northeastern Washington and northern Idaho (Holstine 1978:44).

Although these lands were closed entirely to cutting and other uses, no provision was made to protect or manage them. It was soon apparent that this type of provision was needed. In 1897, the first forest law was passed which provided for the "organized protection and orderly use of the forest reserves for purposes of protecting the water supplies of the western states and assuring continuous timber supplies (Frank 1955:8). According to French (1914:394), the 1897 act partially stated: "No public forest reservation shall be established except to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States; but it is not the purpose or intent of these provisions, or of the act providing for such reservations, to authorize the inclusion therein of lands more valuable for the mineral therein, or for agricultural purposes, than for forest purposes".

In 1905, the administration of the forest reserves was transferred from the Department of Interior to the Department of Agriculture in an attempt to develop an adequate organization from which to protect and organize the forest (Frank 1955:9). The Bureau of Forestry was headed by Gifford Pinchot and renamed the Forest Service. Secretary of Agriculture, Tama Wilson, instructed Gifford Pinchot to bear in mind "that all land is to be devoted to its most productive use for the permanent good of the whole people and not for the temporary benefit of individuals or companies...and to...See to it that the water, wood, and forage of the reserves are conserved and widely used for the benefit of the home builder first of all. In the management of each reserve local questions will be decided upon local grounds; the dominant industry will be considered first, but with as little restriction to minor industries as possible..." (Frank 1955:18).

"Among the first big jobs of the Forest Service were the consolidation of the national forests and the elimination from public ownership of areas determined to be better suited for permanent ownership than for national forest purposes" (Frank 1955:10). Though the act of 1897 had prohibited the inclusion of agricultural lands within the reserves, a large amount of such land was incorporated when reserves were created. As Westerners often cited this fact as the main reason for their objections to the reserve system, the first regulation appearing in the USFS manual of 1905 instructed foresters to protect the rights of homesteaders occupying legitimate claims in the reserves (Holstine 1978:57).

The task of eliminating areas suited for homesteaders from the reserves was accomplished through the Forest Homestead Act of 1906, which opened to settlement national forest lands officially judged to be primarily of agricultural value and actually occupied by the claimant. To acquire private ownership of the land, homesteaders paid two dollars per acre. Under President Roosevelt's administration, between 1906 and 1909, nearly half a million acres of agricultural land in the national forest had been opened to settlement (Holstine 1978:58).

Opposition in western states to the creation of forest reserves in that area led to the passage of an act by Congress in 1907 which prohibited the President from creating additional forests from public domain within Oregon, Washington, Idaho, Montana, Wyoming, and Colorado, except by special legislation. Just before the act took effect, President Theodore Roosevelt set aside 21 more areas containing over 40,000,000 acres (Frank 1955:9). Among these "midnight reserves" was the Colville Forest Reserve. The new reserve included timberland between the Okanogan and Columbia Rivers and the Colville Indian Reservation and the International Boundary (Holstine 1978:47). This act also gave the forest reserves their present name of national forests (Frank 1955:9).

COLVILLE NATIONAL FOREST

The desire to create a reserve in northeastern Washington came in 1905 when a report submitted to the Forest Service gave detailed information and a convincing argument for such a creation. It was recommended that the reserve should be established because of "the development about to take place and the future need of this district" (Holstine 1978:50). The author of the report predicted that if left

unprotected and open to public entry, the timber lands would soon be within the control of a handful of men. Severe burning for several years had caused much damage and, without means for prevention or control, would continue to cause excessive damage. Grazing on the ranges would increase because of the growing population in the area. Thus, the Colville National Reserve was established in 1907 by a proclamation from President Theodore Roosevelt (Holstine 1978:50).

President Taft, in a proclamation issued May 9, 1910, eliminated from the Colville National Forest several small pieces of land along the boundaries of the forest between the Okanogan and the Kettle and Columbia rivers. These reductions totaling 43,666 acres and numerous land acquisitions through the year 1910, left a total of 752,192 acres in the forest. The boundaries of the forest were further changed in 1921 when the state of Washington exchanged its school lands lying within the interior of the forest for grazing lands which the Forest Service would have been unable to handle adequately (Holstine 1978:62).

KANIKSU NATIONAL FOREST

The Kaniksu National Forest went through a number of land transfers before the boundaries that are now recognized were established. Originally, this forest was part of the Priest River Forest Reserve, with lands later being added from the Pend Oreille, Cabinet, Kootenai, and Coeur d'Alene National Forests. The process began in 1897 when the Priest River Forest Reserve was established. This new reserve chiefly consisted of lands within the Priest Lake and Priest River drainages. In 1906, the reserve was expanded to include lands west of the Purcell Trench and east of the hydrographic divide between the Kootenai and Pack rivers and Priest Lake and Priest River. More additions were made when, in 1907, the area east of the Pend Oreille River became part of the Forest Reserve system. Soon thereafter, in 1908, the Kaniksu National Forest was established from the Priest River Forest Reserve. This new forest encompassed the land from the hydrographic divide of the Pend Oreille River and Priest Lake and Priest River east to the ridges between the Kootenai and Pack rivers and Priest Lake and Priest River. In 1913, and again in 1924, lands east of Priest Lake and the Priest River were eliminated from the Kaniksu National Forest when the state of Idaho made indemnity land selections.

Additional lands were added in 1933 when the Pend Oreille National Forest was abolished. The Pend Oreille National Forest was, in part, made up of land transfers from the Cabinet, Kootenai, and Coeur d'Alene National Forests. Other additions were made in 1954 when the Cabinet National Forest was abolished. From this time, the general boundaries of the forest have remained the same, although there have been several periods of district expansion and consolidation and the transfer of district administrative responsibilities.

COEUR d'ALENE NATIONAL FOREST

The Coeur d'Alene National Forest was established in 1906, encompassing the lands from Lake Pend Oreille and the Clark Fork River south to the vicinity of the Clearwater Special and 7th Standard Parallels. In 1908, some lands were transferred from the Coeur d'Alene National Forest while others were added. The area north of the Coeur d'Alene River drainage was transferred to the Pend Oreille National Forest and the lands south of the St. Joe River were transferred to the Clearwater National Forest. Meanwhile, the Palouse National Forest became part of the Coeur d'Alene. In 1910, parts of Townships 41 and 49 north, Range 3 west and Township 44 north, Range 5 west were excluded from the forest. The former Palouse National Forest and Coeur d'Alene National Forest sections south of the St. Joe Mountains in Township 47 north became part of the St. Joe National Forest in 1911. The Coeur d'Alene National Forest attained its present boundaries when the Pend Oreille National Forest was abolished in 1933 and lands in Township 52 north, Range 2 west and Township 53 north, Range 3 west were transferred and brought under its management.

ST. JOE NATIONAL FOREST

On March 21, 1905, the main division of the St. Joe National Forest was withdrawn from public domain as the Shoshone Forest Reserve. It was included with the Coeur d'Alene National Forest on November 6, 1906. The Palouse division was withdrawn from domain on December 11, 1906 and remained a separate unit for one and one-half years, then it was transferred to the Clearwater National Forest. President William H. Taft established the St. Joe National Forest on July 1, 1911, using portions of both the Clearwater and Coeur d'Alene National Forests. Approximately 180,000 acres of land outside the boundaries of the St. Joe National Forest were donated to the Forest Service in the 1930s. Most of these donations were made by lumber companies.

The St. Joe National Forest is located in northern Idaho within the counties of Benewah, Clearwater, Latah, and Shoshone. It is bordered by the Coeur d'Alene, Clearwater, and Lolo National Forests and by private land to the west. Within the administrative boundary of the forest are 1,676,000 acres of land, 863,110 acres of which are managed by the Forest Service. Burlington Northern, Incorporated, the state of Idaho, Potlatch Corporation, the Milwaukee Land Company, and Diamond International Corporation are other major landowners.

Major drainages of the forest include the St. Joe River, St. Maries River, Little North Fork of the Clearwater, North Fork of the Clearwater, and the Palouse River. The communities of St. Maries, Avery, Calder, Fernwood, Santa, Clarkia, Bovill, Elk River, Emida, Helmer, Princeton, Potlatch, Sanders, St. Joe City, and Harvard are located within or near the forest (U.S. Department of Agriculture:1970).

The Forest Ranger in 1907

The job of forest ranger has changed quite a bit since the creation of the Forest Service. Job descriptions in the early days were broad in contrast to the specialization that is seen in the Forest Service today. The following is an interesting account of the qualifications and duties of an early forest guard. The early forest rangers, then called forest guards, had a wide range of duties and responsibilities on the reserves. To become a forest guard in 1907, one had to pass an examination with the following requirements as related by Mr. Harrington, a former Forest Service employee (U.S. Department of Agriculture 1944-76:III,111).

- 1st: To supply three head of horses and complete equipment and tools to work with in the building of trails, cabins, etc.
- 2nd: To pace around and give the acreage of a triangular tract of land that was staked off. It was a small tract - as I recall, about 3½ acres.
- 3rd: A packer test. Requirements consisted of being able to properly place on their packstock an assortment of equipment consisting of a barrel, tools, bedding, tent, and complete outfit to be able to get along in the mountains.
- 4th: To tie a diamond hitch which, of course, was a "must".

The guards planted trees, cleared trails, and built lookouts and cabins. They earned \$75.00 a month, had to board themselves, and furnish their own horses, tools, tents, and other necessities (U.S. Department of Agriculture 1944-76:III,111).

Government equipment which was issued for the field included:

2 d.b. axes 2/ handles	1 pick	3 padlocks
5 auger bits	2 scale rules	1 F.S. compass
1 bit brace	1 X-cut saw	1 letter file
1 log chain	1 hand panel saw	"Favorite"
1 carpenter chisel	1 hand rip saw	1 F.S. key
1 surveyor compass	1 long hand. shvl.	1 spirit level
1 emery wheel	1 steel square	1 F.S. shield (badge)
2 nail hammers	1 linen tape 75'	1 tomahawk
	1 7x9 tent	1 marking hatchet w/case

(Fickes 1973:18).

Other equipment a forest ranger might take into the field would include "a regular stock saddle with a blanket and bridle and a saw buck packsaddle with a blanket and saddle pad, a pair of canvas alforjas (pack bags), a halter, a lead rope for the packhorse. Camp equipment also consisted of two long-handled fry pans, three tin plates, coffeepot, table knives, forks, and spoons, a marble hunting knife in scabbard, a .32 Special 1894 Winchester rifle with leather scabbard...camp bed, and extra clothes, a yellow Fish brand slicker... and a canvas pack cover 7 x 7" (Fickes 1973:32).

Fire Control

One of the major topics discussed by John Leiberg (1893) in his report on the Forest Reserve lands was fire. During the 30-year span of his survey, he reported hundreds of acres of newly burned timber. It was his feeling and recommendation that these lands be withdrawn from public domain and placed under a system that would provide proper fire control and timber management. The Forest Reserve system was established before Leiberg's report was published and sufficient funds had not been allocated for effective fire prevention or control. In response to this situation and in an effort to protect their own interests, private lumber companies along with federal and state representatives pooled their efforts to form forest protective associations. The North Idaho Forestry Association and several Timberland Forest Protection Associations were formed, and by 1907 the Coeur d'Alene Timber Association was organized along with the Tsemini Association in the Spirit Lake area, and the Pend Oreille Timber Protective Association headquartered in Sandpoint (Strong and Webb 1970:39). Although their efforts were minimal compared to today's standards, these associations provided a system of fire control in areas which previously had none.

While these associations were forming, there was an effort going on in Washington, D.C. to encourage the Congress to allocate funds to ensure proper fire control management of the national forests. Gifford Pinchot was a strong force in this move to convince government officials of the needs for trails, lookouts, guard stations, and communication systems. Their effort seemed to fall on deaf ears until the summer of 1910.

During the winter of 1909-1910, there was an average snowfall and no indication that the fire season would be anything but average until spring. The rains that usually came during this season were absent. As a result, the forests of northeastern Washington, north Idaho, and western Montana dried out earlier than usual. This condition prompted the onset of an early fire season as fires began to break out in June. At this time, there were no lookouts to detect these fires. The Forest Service had to depend on intermittent ground patrols for spotting fires (Koch 1915:2). Accessibility to the forest areas was limited because an extensive system of trails for fire control did not exist. By July, there were 3,000 firefighters in the area (Koch 1915:3). To complicate matters, the Forest Service did not have sufficient tools for this number of people to fight the fire. Local hardware stores were sold out of shovels and picks as the Forest Service made an effort to equip its "army" (Koch 1915:3).

By August, the area was a tinder box. Severe electrical storms on the tenth of the month caused numerous fires. However, by the nineteenth the situation seemed somewhat "under control." Then during August 20-22, gale winds came up from the southwest resulting in small fires bursting into large ones (Koch 1915:4), and thousands of acres of timber were engulfed by flames in a matter of two days. The firefighting crews were inadequate and too inexperienced to deal with the situation. A similar situation would probably tax the firefighting capabilities that are available today.

Hundreds of people fought the fires as they ravaged the St. Joe and Coeur d'Alene National Forests. Flames reached Wallace and destroyed a third of the town. Such natural barriers as the Clark Fork and Pend Oreille rivers were jumped by the fires. Over 70 firefighters and several settlers were killed, along with the loss of property and animals. Many stories of valiant deeds have come from this firefighting effort. One of the more famous ones is that of Mr. Pulaski who saved his crew of firefighters through good, quick thinking. Overcome by the fire, he sought refuge for his crew in an old mine shaft. By placing wet blankets over the opening, most of the crew was able to survive the effects of the fire.

The winds died down for a short time, only to spring up again the following week. The fire continued to blaze until August 31 when a substantial rain brought it under control and put an end to the 1910 fire season. This fire destroyed mile after mile of valuable timber in addition to the loss of life (Figure 14). An epidemic of bark-beetle was also the result of the 1910 fire. The fire-scorched trees were immediately attacked by the beetle, and by 1914 they had invaded green timber resulting in the loss of millions of board feet of white pine (Koch 1915:27). The outcome of the fire was not all negative. It did have the effect of developing an efficient fire control and trail system, lookouts, telephone lines, and a training program for firefighting crews. This fire also opened up large areas for logging. Although the trees were burned, much of the timber was still marketable. As a result, logging occurred in areas that had previously been inaccessible.

Northeastern Washington and north Idaho have experienced other years of extensive fires. None of these have compared to the 1910 fire which is partially due to the improved fire prevention and control techniques that were initiated as a result of this disaster.

Blister Rust Control

Development of the Blister Rust Control (BRC) program began in the early 1910s when this disease was introduced to northwest North America via a shipment of infected white pine nursery stock from Europe. This deadly fungus had begun ravaging the white pine populations in the eastern United States a number of years prior to this time. Hopes of confining blister rust in the East were dashed when it was discovered that infected trees had reached Vancouver, British Columbia (Figure 15).

The discovery of blister rust could have spelled the end of the lucrative western white pine and sugar pine industries. However, foresters and private lumber concerns reacted by forming an *ad hoc* committee to study the problem (Benedict 1973:22). This committee, the forerunner to the Forest Pest Action Councils, was able to secure federal appropriations to study the problem of blister rust in the west (Benedict 1973:22). Soon thereafter, the Division of Blister Rust Control was established as part of the Bureau of Plant Industry in the Department of Agriculture. In 1922, the Blister Rust Control Office was established in Seattle and moved to Spokane a year later to be closer to the vast white pine forests. The responsibilities of this office included:

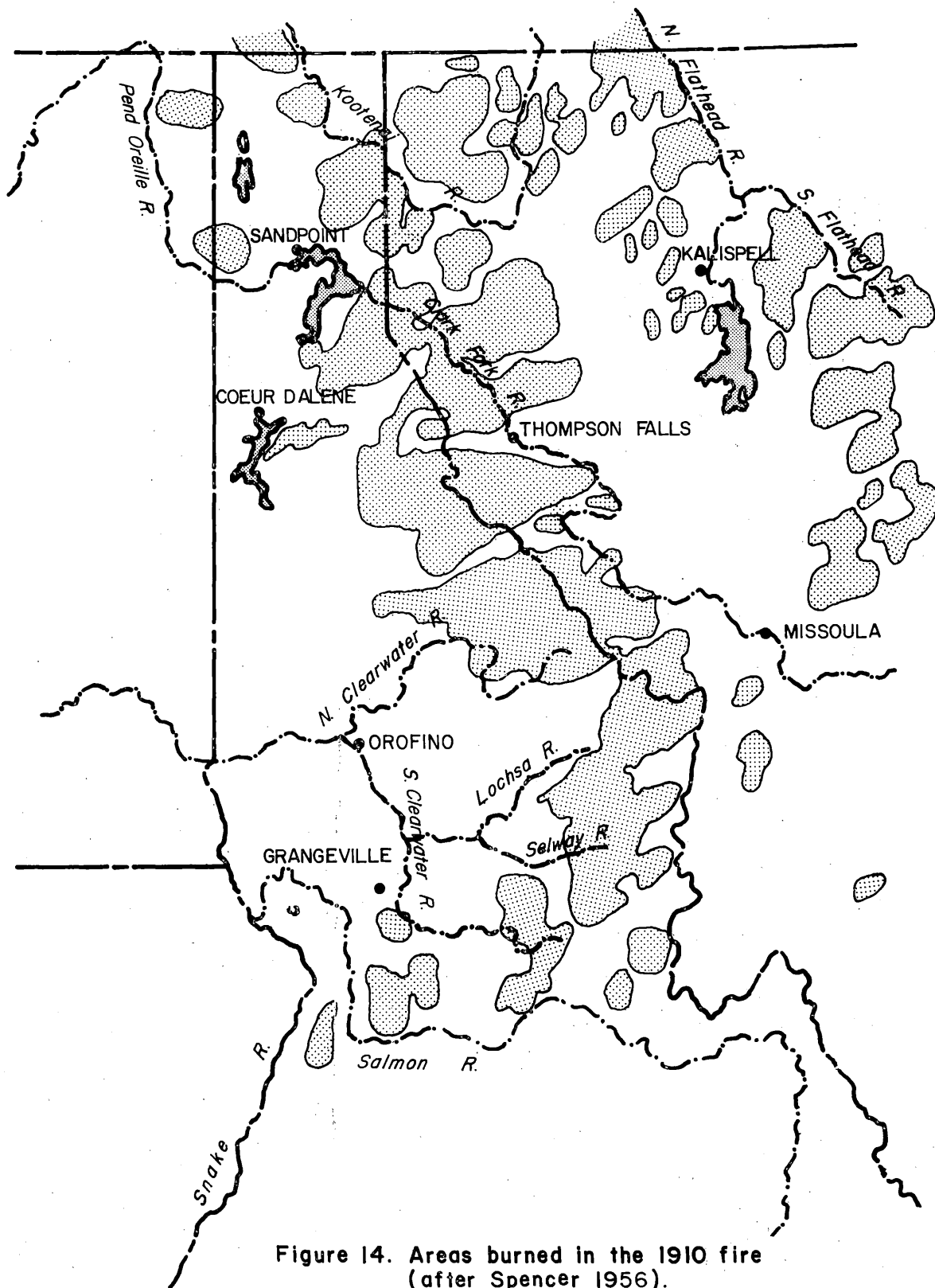


Figure 14. Areas burned in the 1910 fire (after Spencer 1956).

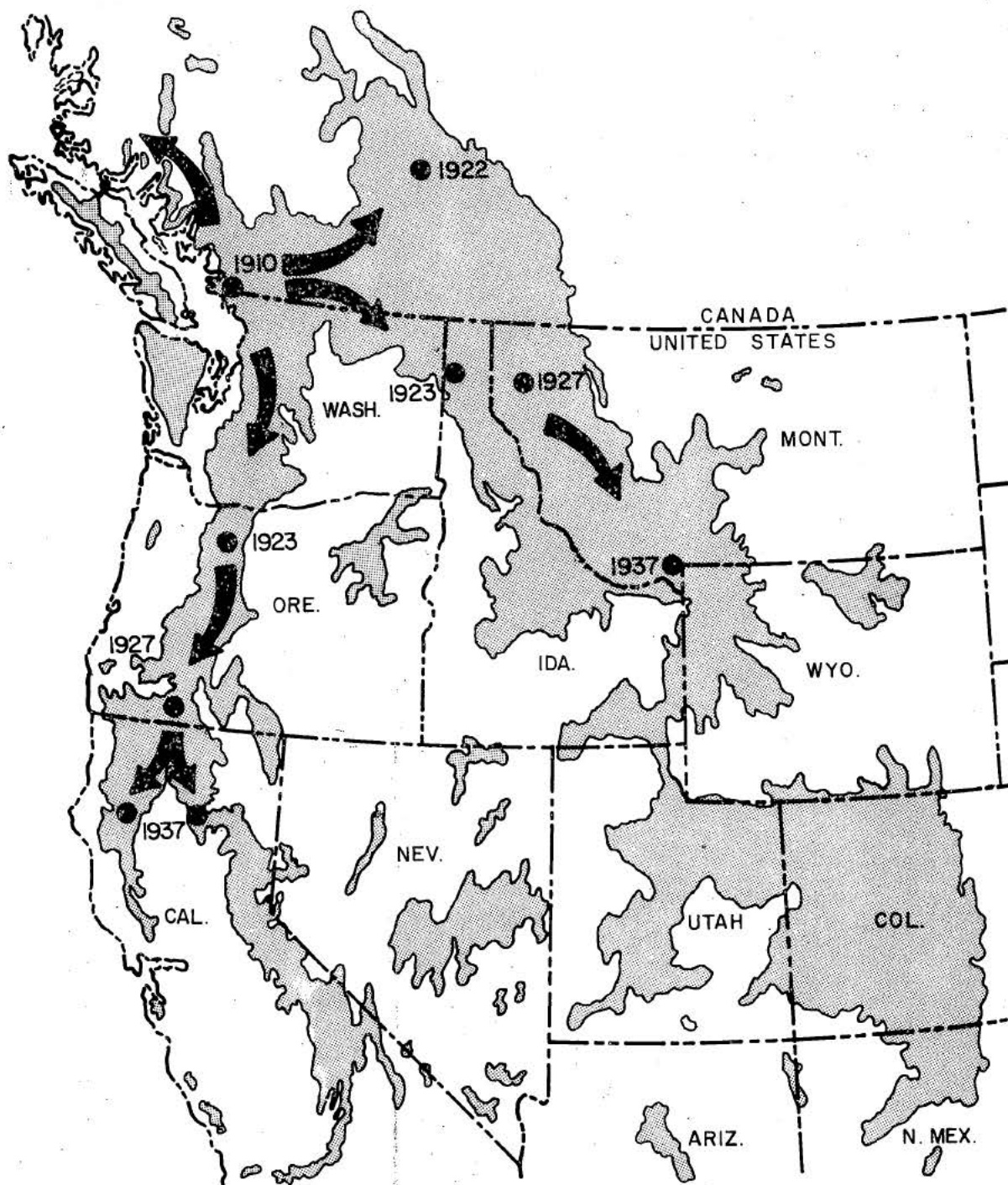


Figure 15. This figure illustrates the spread of blister rust in the West. The light gray areas represent white pine stands and the arrows indicate the path and dates of infection (after Dunwoody and Edgerton 1937).

1. keeping tabs on the spread of blister rust.
2. checking on the abundance and distribution of *Ribes*.
3. mapping white pine types.
4. experimenting with methods of controlling the disease.
5. ascertaining control costs.
6. developing and applying tactics for delaying its spread and intensification (Benedict 1973:22).

In 1933, the BRC program experienced a boost in its seasonal personnel when the Civilian Conservation Corps (CCC) was established. By 1934, thousands of CCC enrollees were engaged in the eradication of *Ribes*. In fact, entire CCC camps were assigned to the BRC program.

The actual eradication of *Ribes* was carried out primarily by hand. Crews of about 12 men worked abreast, six to ten feet apart, as they moved through the forest either digging or pulling up *Ribes* plants (Simpson and Jackman 1967:264). Special short-handled grubhoes were used when the plants could not be pulled up by hand (Simpson and Jackman 1967:264). String was unwound behind the end workers to mark the area worked and to insure proper coverage of the entire area.

In certain locations the hand methods were not effective. Generally speaking, these were areas exposed to the sun which resulted in vigorous *Ribes* bushes with extensive root systems. As a result, heavy equipment such as bulldozers were used to eradicate the host plants. Chemical treatments were also experimented with as part of the BRC program. Compounds of sodium chlorate and calcium chloride were applied by hand with backpack sprayer units (Simpson and Jackman 1961:266). According to Leland White, these chemical sprays were mainly used on the wild black currant which grew only along streams. These bushes were prevalent in the St. Joe and Clearwater forests, but did not grow at all on the Kaniksu (White I,A,17:30-18:45).

By the end of 1934, the responsibility for the BRC program was transferred from the Bureau of Plant Industry to the Bureau of Entomology and Plant Quarantine (Benedict 1973:24). This account differs from the recollections of Leland White, who indicated in an interview that the Bureau of Entomology had controlled the BRC camps in the Kaniksu since the earliest ones in the 1920s. According to White, direction of BRC operations on federal forests was transferred to the Forest Service in 1938, and many Bureau of Entomology staff members (including White himself) transferred to the Forest Service at that time to continue with the program (White I,A,9:30-11).

Toward the latter 1930s, work by the CCC in control of blister rust was falling off. It was at this time that the National Industrial Recovery Act (NIRA) and the Works Project Administration (WPA) programs took up the slack (Benedict 1973:24). The BRC program was able to make great strides as a result of the funds and manpower of these emergency relief programs. BRC made use of these programs until the beginning of World War II. It has also been reported that the BRC program employed labor forces of Italian and German internees, Mexican nationals, and teenagers (Houghton 1972:28).

With the onset of World War II, there no longer existed the need for federal emergency relief programs. Jobs became plentiful and the attention of the country was turned toward the war effort. Funds for BRC were drastically reduced when the emergency relief programs were phased out. BRC did however, receive enough funds to maintain its office and program. At this time, questions began to be asked as to the effectiveness of the BRC. Were the results worth the immense cost? Some felt the results were not and funds were cut, and thus the number of control units were reduced to less than half the acreage treated under the relief programs (Benedict 1973:25). Also, white pine was losing some of its economic dominance in the market place as other woods began to increase in popularity, thus lessening the pressure to completely save the species. "This brought into focus the concept of 'local control' by which any patch of pine worth protecting could be cleared of *Ribes* within the patch and on a strip surrounding it, varying in width from a thousand feet to about one mile" (Benedict 1973:25). This procedure was not as effective as hoped for because the blister rust spore was able to survive long periods of time.

Blister rust is a heteroecious rust fungus that requires an intermediate host in order to develop and spread (Benedict 1973:27). In this case, the host is the genus of *Ribes* which include currant and gooseberry bushes. The blister rust fungus develops on the *Ribes* and is then transported to the white pine. Here, the fungus forms cankers on the tree, killing it by girdling and choking the branches and trunks (Dunwoody and Edgerton 1937:3,5). Before the tree dies, the cankers set free spores which are carried by the wind to infect other *Ribes* bushes. Blister rust cannot spread from tree to tree. Its cycle is from *Ribes* to white pine and from white pine to *Ribes*. In order to control blister rust this cycle had to be broken. Thus, it was decided to try to remove *Ribes* from selected white pine areas.

Originally, it was thought that the disease would first appear as it crossed the International Border. As a result, barrier zones "free of *Ribes*" were established in areas along the Canadian-U.S. border. Unfortunately, it was discovered that the blister rust spores could survive a 100-mile wind borne trip to infect new *Ribes* bushes and thus negate the effect of the barrier zone.

According to oral informant Leland White, who worked in the BRC program for a number of years, the first camps in northern Idaho were operating in 1923 (White I,A,12-16). This information conflicts with documentary sources which mention that not until 1925 were several seasonal camps, located in the Priest River drainage, operating out of the BRC office in Spokane. These camps evidently experimented with different procedures and crew formations for ridding selected stands of white pine from *Ribes* (Benedict 1973:23). They were supervised by permanent employees of the BRC office who spent the late fall and winter months in Spokane. The field work of eradicating the *Ribes* was carried out by the Forest Service under the direction of these BRC supervisors (Simpson and Jackman 1967:262) or by forestry students in BRC camps (Houghton 1972:27).

These camps were fairly small in the early years because of limited funds. According to interviewee Leland White, most of them were tent camps which contained from 25 to 30 men. These men would go out into the field in crews of three or four (White I,A,18:45-25).

There were over 200 camps in the Kaniksu National Forest that dealt with *Ribes* eradication during the 25 years of the BRC program. As mentioned previously, intense work took place in the Priest Lake region. The area from Pine Creek, north of the town of Priest River, through the east and west sides of Priest Lake, Upper Priest Lake, and Upper Priest River up past Rich Creek to within a few miles of the Canadian border was worked by BRC crews (Houghton 1972:29). BRC also operated out of Sandpoint, Naples, Clark Fork, Bonners Ferry, Porthill, and the Pack River drainages (out of Samuels) (Houghton 1972:29). Areas covered in Pend Oreille County included Tiger Hill, Gypsy Meadows, and Muddy Creek (Houghton 1972:29).

In 1953, BRC was transferred to the Forest Service and has since been managed by this agency. During the 1950s, the Forest Service continued the "local control" technique (Benedict 1973:26). However, in recent years genetics have played an increasingly important role in the control of blister rust. Through this type of research, it is hoped that a white pine immune to blister rust can be developed.

It has often been asked whether or not the BRC program was worth the time, money, and effort put into it. Many foresters believe it was. Today there are vast stands of white pine that would probably not be there had it not been for the activities of the BRC. However, BRC might not have been nearly as effective as it was had it not been for the labor force and funds supplied by the emergency relief programs of the 1930s.

Civilian Conservation Corps

Of all the emergency relief programs during the 1930s, the Civilian Conservation Corps (CCC) had the greatest effect on the project area. Begun in response to the devastating economic situation of the great Depression, this program put eligible men to work constructing hundreds of miles of trail and roads, fighting fires, and planting trees. The U.S. Department of Labor was responsible for recruiting the young men who were to participate in the CCC program, while the War Department fed, clothed, and administered the camps (Carroll 1973:2). The work that was performed by the enrollees was then supervised by the Departments of Agriculture and Interior. About 75 percent of the CCC camps worked on projects administered by the Forest Service.

President Franklin Roosevelt began the process of organizing the CCC when he signed the act of March 31, 1933 (Salmond 1967:23). Executive Order 6101, signed April 5, 1933, noted the official existence of the CCC (Salmond 1967:31). The CCC had a five-fold purpose:

1. Employment of young men unable to find work through the usual channels.
2. Conservation and expansion of our natural resources.
3. Assistance to families dependent on relief.
4. Stimulation of industry through purchase of equipment and supplies associated with the program.
5. Maintenance of morale in the young men involved in the program, education in citizenship, and encouragement in vocational training (Carroll 1973:2).

Once the program was enacted, a quota system was set up for each state. This quota system was based on a proportion of each county's population. The original number of enrollees was set at 250,000 (Carroll 1967:178). To qualify for this program, the individual had to be male, a U.S. citizen by birth or naturalized, 18 to 25 years old (primarily), single, and from a family that was on public relief rolls. He must also be willing to allot \$22 to \$25 of his monthly \$30 wage to his dependents (Salmond 1967:30).

The tasks of the CCC were classified under two general categories: forest production and forest improvement (Salmond 1967:121). The former was accomplished through construction of roads, trails, telephone lines, and lookouts which facilitated communication between firefighting units and enabled supplies, equipment, and personnel to be transported more

quickly (Salmond 1967:122). In addition to aiding fire control, trails and roads were built to open new areas for resource exploitation. "The most important aspect of the Civilian Conservation Corps forestry improvement work was reforestation. By June 1936, nearly 570 million young trees had been planted on national forest lands" (Salmond 1967:123). CCC was also involved in thinning timber stands; stringing telephone lines; improving grazing lands on the national forests; building new campgrounds and constructing structural additions such as warehouses, ranger district offices, bunkhouses, and garages which aided in forest management; developing wildlife refuges; and improving and digging new water holes (spring improvement). They were also active in Blister Rust, Bark Beetle, and Gypsy Moth control (Salmond 1967; Carroll 1973). Much of this work was supervised by what were called local experienced men (LEM). These were usually men from the area who were skilled in the various tasks being undertaken by the CCC enrollees. On the Kaniksu, for example, many of the local experienced men were loggers, who assisted with CCC crews working in Blister Rust control camps. Generally speaking, these men were somewhat older than the enrollees.

Northeastern Washington and north Idaho were part of the Ninth Corps Area of the CCC which was headquartered in San Francisco. More specifically, this area was part of the Ft. George Wright District, headquartered in Spokane, Washington. The boundary of this district extended from the Canadian border to just south of Moscow, Idaho. The area south of this region was part of the Lewiston, Idaho District (Carroll 1973:15) and was chiefly administered by the Soil Conservation Service. The enrollment in the CCC program peaked in 1935 with 579,000 men in 2,650 camps (Carroll 1973:3). In 1933, there were at least 26 camps in the project area. This number excludes the St. Joe National Forest. These camps are all listed below as they were identified by Carroll (1973:167-168).

Colville National Forest

<u>Camp No.</u>	<u>Name of Camp</u>	<u>Post Office</u>
F-4	Deadman Creek Co. 745	Boyds
F-5	Leese Co. 951	Tonasket
F-6	Midget Creek Co. 984	Orient

Pend Oreille County (private)

P-215	Tacoma Creek Co. 1271	Cusick
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Kaniksu National Forest

<u>Camp No.</u>	<u>Name of Camp</u>	<u>P.O.</u>
F-1	Sullivan Lake Co. 938	Meteline
F-2	LeClerc Creek Co. 949	Ruby
F-31	Priest Lake Co. 1269	Priest River
F-110	Experimental Station Co. 1268	Priest River

Coeur d'Alene National Forest

F-15	Little North Fork Co. 1267	Linfor
F-16	Falls Creek Co. 1284	Prichard
F-27	Eagle Creek Co. 1281	Prichard
F-28	Delta Co. 1282	Prichard
F-29	Grizzly Co. 1283	Prichard
F-30	Prichard Co. 967	Prichard
F-22	Magee No. 2 Co. 1286	Coeur d'Alene
F-24	Rock City No. 2 Co. 1287	Coeur d'Alene

Pend Oreille National Forest

F-36	Grouse Creek Co. 247	Sandpoint
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State Camps - Bonner County

S-203	Indian Creek Co. 1266	Coolin
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Additional camps which were mentioned by oral history informants but which are not identified by number or official name include:

Colville National Forest

McMann
Grouten
Butte Creek (Wheeler II,B,9-16)

Kaniksu National Forest

Four Corners
Boswell Ranger Station
Kalispel Bay
Reynolds Creek
Kalispel Creek (Washington)
West Branch Priest River
Cavanaugh Bay (White I,B,26:30-30)
Smith Creek (Flory IV,B,29-31:30)

There were also 72 Native American CCC camps nationwide that were under the direction of the Bureau of Indian Affairs (Carroll 1973:20-21). Eight of these camps were located in the state of Washington (Carroll 1973:122). For a more complete list of CCC camps. see Appendix E.

Overall, the CCC program was very effective and enormously popular. However, by the late 1930s there began to be a reduction in the number of camps. As the country began to slowly recover from the Depression and with the onset of World War II, the need for the program began to wane. Also, many of the young men who were participating in the CCC program were now being called into the armed services. In June of 1942, the CCC was liquidated for lack of need. By this time, the program was competing with private business for labor, a situation that was considered undesirable.

The activities of the CCC within the project area were as varied as the areas they worked in. To discuss the accomplishments of each camp would be an enormous task which would not be suitable for this report. However, the corps did build miles of trail and roads and dozens of lookout towers. Parts of the Sullivan Lake Ranger Station and the headquarters for the Priest River Experimental Forest were built by CCCs and are excellent examples of the superb craftsmanship that went into CCC construction projects. Picnic areas, campgrounds, and water holes were also developed by the corps. As mentioned before, the CCC was also utilized in the eradication of blister rust. Oral history informants remembered additional CCC activities that included firefighting, tree planting, and the stringing of telephone lines.

Creation of the Bureau of Land Management

The General Land Office 1812-1946

The General Land Office was established in 1812 to handle the sales of public land. It was part of the Treasury Department and assumed the responsibility of supervising the land offices that had been established in 1800 (Dawson 1951:59). Public lands were looked upon as a source of revenue and the office was required to distribute and sell lands. In 1836, the General Land Office was reorganized and enlarged. The Survey, Public Lands, and Private Land Claim Divisions were officially established, and the office was required to supervise the work of surveying offices. In 1849, the General Land Office was transferred to the Interior Department, and six years later was required to take over control of public timber land and protect it from depredation (Dunham 1970:12-13). In 1905, the forest reserves were transferred from the General Land Office to the Department of Agriculture (Clawson 1971:32).

The early method of land disposal was by sale, and land had to be surveyed before title was given. Until 1910, surveys of public domain were made by private firms under contract. After 1910, the General Land Office established its own surveying organization (Clawson 1971:30).

The General Land Office was highly centralized in relationships between the field and Washington, D.C., and within the Washington office. "Applications for land were filed in district land offices, but sent to Washington for action" (Clawson 1971:39). The number of land offices varied from year to year depending on the availability of public land. In the early 1800s, most of the offices were located in the east to deal with the transactions concerning public land in that part of the country. As the population in the west grew and public lands began to be settled, the need for land offices became apparent. The first land office established in Washington Territory was in 1855 at Olympia (Yeager 1961:59). By the end of the century, a district office had been established in Spokane to handle the homestead and mining claims in the fast growing Inland Empire. For a time, an office was located in Coeur d'Alene in the later 1800s to assist miners and settlers in that area. Overall, there have been 360 District Land Offices in the continental U.S. and Alaska (Clawson 1951:59). The peak number of offices was 123 in 1890 when homesteading and mining were major impacts on the project area.

Division of Grazing/Grazing Service 1934-1946

Often cited as marking the end of public domain, the Taylor Grazing Act was passed in 1934 as a means to administer grazing leasing on public lands. The act "provided for a system of managing federal grazing resources through grazing districts and limiting the amount of grazing permitted on the land to preserve its long-run productivity. The act also gave the Secretary of the Interior the authority to classify federal land according to the use for which it is best suited" (Clawson 1971:34). "Under this act, the Secretary of Interior was empowered to establish grazing districts from vacant, unappropriated and unreserved lands; the effect of this was to withdraw such lands from entry and settlement except as the Secretary may thereafter classify such lands as suitable for uses other than those contemplated by the act" (Robinson 1975:4).

Lands to which the Taylor Grazing Act applied were under jurisdiction of the General Land Office, but the office could not initiate and carry out the program of grazing management. The Division of Grazing was created and was responsible for administering grazing activities, including issuing licenses, conducting range surveys, and making range improvements. By 1939, the Division was renamed the Grazing Service. For a number of reasons, the Grazing Service and General Land Office were rendered ineffective by 1946, and the Bureau of Land Management was created (Clawson 1971:37).

The Bureau of Land Management

The Bureau of Land Management (BLM) was created in 1946 by consolidating the General Land Office and the Grazing Service. The BLM became a three-tiered organization combining the functions of the General Land Office and Grazing Service at the Washington, D.C., the region, and the district levels. A four-tiered organization was established under the leadership of Woosley between 1953 and 1961 when he changed the former regional offices into state offices and established supervisory regional offices (Clawson 1971:40).

The BLM, with more than 450 million acres, is the nation's largest land manager. Two-thirds of this land is in Alaska, and nearly all of the remainder is in the eleven contiguous western states. "Although the BLM is the largest landowner, nearly all of its lands are relatively poor in productive natural resources. Most of these BLM lands were public domain lands not reserved for national parks, forests, or other federal reserves (e.g. wildlife refuges, military reservations, Indian reservations, reclamation lands). The best areas were either selected for reservation and withdrawal, or were homesteaded; what remained thus tended to be land of limited economic value. However, the BLM does own valuable timber land in Oregon and Alaska, and some other areas possess valuable mineral wealth (the Outer Continental Shelf lands are leased for mineral exploration, and valuable oil lands exist in the Intermountain West and in Alaska). The third major use of BLM lands is grazing. Although revenues from grazing are only a small fraction of those from timber sales and a tiny fraction of revenues from mineral leases, grazing has traditionally been the most widespread use of BLM lands. Outside of Alaska almost 90 percent of the BLM land is incorporated into grazing districts" (Robinson 1975:22). The BLM, Spokane District, manages approximately 43,504 acres within Ferry, Stevens, and Pend Oreille Counties. Land managed by the Coeur d'Alene District in Boundary, Bonner, Kootenai, Shoshone, Benewah, Latah, and Clearwater counties is estimated at 152,705 acres. This district, however, is in the process of transferring some 22,000 acres to the state of Idaho.

TRANSPORTATION

One of the major factors in the development of north Idaho and northeastern Washington was transportation. This area offered abundant natural resources and land for settlement which could not be fully exploited without adequate transportation. The first Euro-american people to enter this area were fur traders who followed trail and waterway routes previously established by Native Americans. Missionaries followed the traders and they, too, traveled over the same routes. When gold was discovered in the Colville and Wild Horse countries, the number of people traveling through the area increased rapidly. Trails were improved somewhat to allow passage of numerous mule and horse pack trains. Ferries and to a lesser extent bridges, were established at major river crossings to accommodate the mining traffic. Steamship lines also began to ply the lakes and rivers, thereby shortening and easing the journey northward. Major river obstacles such as Cabinet Gorge, Albeni Falls, Post Falls, Box Canyon, and Z Canyon were however, portaged for some years.

Gold was discovered in the Coeur d'Alenes soon after the first transcontinental railroad had been completed through north Idaho. The presence of this railroad enabled rapid expansion in the Coeur d'Alene mining district. Settlement was boosted when vast portions of north Idaho were made available to immigrants via the railway system. Roads, too, began to develop as it became necessary to move supplies by wagon. Many rough areas were accessible only by trail for a number of years because it was too difficult to build and maintain roads and move wagons over such terrain. Some of these areas could not be reached by road until the automobile came into general use in the early twentieth century.

As more and more settlers entered north Idaho and northeastern Washington, the need for more and better roads increased. Soon, county and state governments were replacing the efforts of small local groups in constructing new roads. As these new transportation systems developed, old trails and water routes were used less and less. The automobile soon gave individuals virtually unlimited access to any area served by these roads. No time schedule had to be adhered to as with the train although rail passenger service remained popular in the first half of this century. In the last 40 years, inroads have been made into railroad services by trucking firms and more recently by the airlines.

Trails and Roads

In the past, trails played an important role in the transportation systems of northeastern Washington and northern Idaho. Many of these pathways were initially used by Native Americans and later by the first Euroamericans in the area. These trails, along with water system travel, provided adequate transportation routes for these early people. Gradually, as the nineteenth century came to a close, it became necessary to abandon many of the trail systems in favor of roads that afforded the new settlers and industries with easier access. Many of the roads came about as improvements of the existing main trails. As a result, quite a number of trails that had, at one time, been thoroughfares soon faded from memory.

The Forest Service has built literally thousands of trails in its short span of forest management. The basic function of these trails was fire control. A number of these have also become roads as more remote areas have been made available for resource exploitation. For the most part, these trails have slipped into obscurity as the Forest Service's dependence on air fire control has increased. A few are also maintained for recreational purposes. The following discussion on trails and roads is limited to those routes which are of particular historic note (Figure 16); therefore, reference to specific Forest Service trails is not included nor are most of the federal, state, or county roads.

COLVILLE NATIONAL FOREST BLM - SPOKANE DISTRICT

One of the most notable trails in the Inland Empire was located in the Colville National Forest and called the Kalispel Trail. This trail appears to have been the main route between the Pend Oreille valley and Colville valley for many years. Much of the travel over this trail was associated with Hudson's Bay Company, Ft. Colvile. Although referred to in the writings of early explorers, surveyors, missionaries, and traders, this trail is not readily identifiable today. Cultural Resource Consultants, Inc. conducted an archaeological survey in 1978 in an effort to identify the route of the trail. The results of this survey were inconclusive. Although a trail was identified, there was no concrete physical evidence that indicated it was the Kalispel Trail. In fact, the literature pointed to the fact that there may have been more than one such trail.

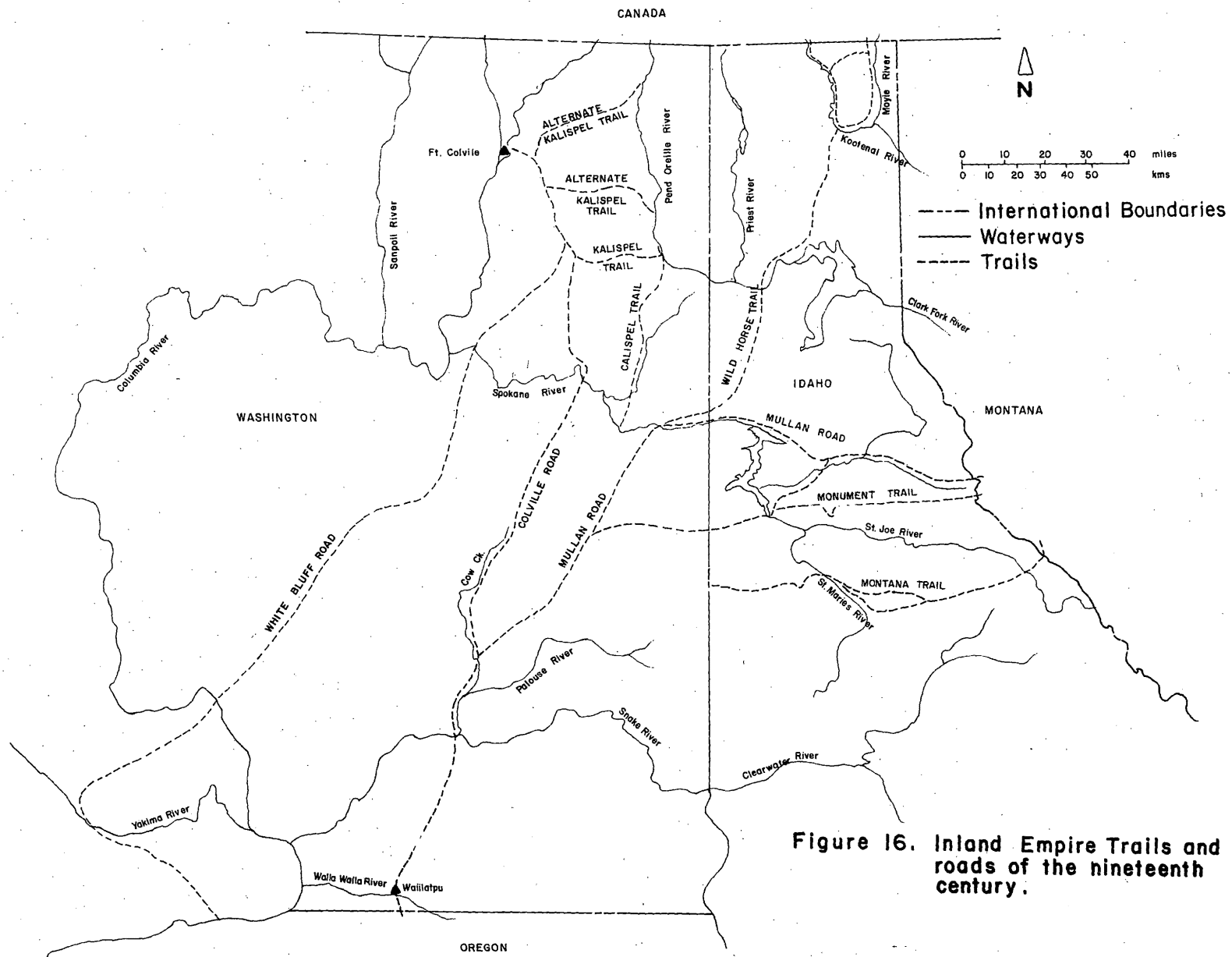


Figure 16. Inland Empire Trails and roads of the nineteenth century.

Area residents, including members of the Pend Oreille County Historical Society, also attempted to pinpoint the location of the trail through documentary evidence as well as ground reconnaissance. Mrs. Flossie Libra, who was interviewed for the *Oral Traditions Overview*, conducted extensive research and concluded that there were possibly three major routes or portions of the Kalispel Trail. The main Hudson's Bay route, Mrs. Libra believed, began in the Colville valley near Sherwood Creek and headed in a southeasterly direction, passing on the south side of Round Top Mountain to Woodward Meadow. From that point, it probably followed a somewhat crooked course toward Calispel Lake (Libra I,A,12-22).

Mrs. Libra also mentioned a second or "middle route" for the Kalispel Trail which, perhaps, had two branches on its eastern portion. One followed Calispel Creek westward from Cusick, while the other passed through the Tacoma Creek area. The existence of trails in these locales was corroborated by other informants who had grown up in the area (Libra I,A,28-32; Stuart Bradley, Joe Zigler, *Informal Interviews*, Appendix A, *Oral Traditions Overview*).

A third or northern trail connecting the Colville valley in the vicinity of Mill Creek with Metaltine was also mentioned by interviewees. Mrs. Libra believed that this route may have been part of a road from Pinckney City, the original county seat, to the Pend Oreille River authorized by county commissioners in 1865 (Libra I,A,9-12:30).

Use of the Kalispel Trail declined when Ft. Colville was abandoned by the Hudson's Bay Company. By the end of the nineteenth century, it did not appear to be chief route of transportation for settlers in the Pend Oreille or Colville valleys. Railroads, steamboats, and alternate routes had replaced the Kalispel Trail by this time.

Two additional historic routes of travel in this region were the Colville and White Bluffs roads. The Colville Road connected the Ft. Walla Walla area with Ft. Colville. Its route crossed the Snake River at the confluence of the Palouse River and proceeded north to the site of the Tshimankain Mission and on to Ft. Colville. This route was followed by early fur traders, missionaries, and travelers. In later years, it was utilized by miners and settlers.

The White Bluffs Road obtained its name from the area where it crossed the Columbia River. This route was located to the west of the Colville Road connecting the Colville valley to the Columbia River near the Umatilla River in Oregon and to points further downriver. The White Bluffs Road was also used by traders, miners, and settlers in the early to mid-nineteenth century.

Another route which was not mentioned in the historical literature but referred to frequently by oral interviewees, was the Calispel (with a 'C') or Rocky Gorge Trail. According to informants, this route headed north and east from Spokane, passed the west end of Sacheen Lake and then proceeded to the Kalispel valley west of Usk and Cusick. This trail was evidently quite heavily used by settlers moving into the Pend Oreille Valley area (Davaz I,A,0-3; Hupp I,B,2:30-6:30; Libra I,A,28-32).

KANIKSU NATIONAL FOREST
BLM - COEUR d'ALENE

The best known overland route of travel in north Idaho was the Wild Horse Trail. This trail provided a route of travel for Native Americans, fur traders, missionaries, government survey crews, miners, and settlers. David Thompson referred to the route as the "Great Road of the Flatheads." His travels from the Kootenai River to Lake Pend Oreille brought him over portions of this trail numerous times. Its southern "end" was at Platte's Ferry (east of Spokane) on the Spokane River. From there, it proceeded northeastward through Rathdrum to the Pend Oreille River at Seneacquoten which was one of the most popular crossings along the river. Many local people believe that Hudson's Bay Company fur trading operations were located at this point. The Boundary Survey Commission and the Northern Pacific Railroad used Seneacquoten as a supply point when each was in the vicinity. After crossing the Pend Oreille River, the trail again proceeded northwestwardly crossing the Pack River and continued up the Purcell Trench to Deep Creek and across the Kootenai River near Bonners Ferry.

After this major crossing point on the Kootenai River, Trimble (1952:5) asserts that the trail took three routes. He states that the first one was used by Thompson generally following the route of State Highway 95. The second route is referred to as the Boundary Commission Road and was proposed to have been utilized by this group. It was to have followed the Kootenai River downstream, branching at what is now Copeland. One branch continued along the Kootenai River into Canada while the other turned northeastward to follow up Mission Creek to meet Thompson's trail north of Brush Lake and then to Round Prairie Creek and the Moyie River and on north into Canada. The third branch followed what is now the route of the Spokane International Railroad which parallels the Kootenai River as it leaves Bonners Ferry. It turns north when it reaches the Moyie River and follows this valley into Canada. A part of the latter route has also been referred to as the Moyie Trail (Trimble 1952:5). This route was also used by Thompson during his travels in north Idaho.

There is information to indicate that the Wild Horse Trail and the Moyie Trail may have taken different routes. A 1916 Forest Service map shows the Wild Horse Trail taking a path up Mission Creek from the western portion of Round Prairie (Hudson et al. 1979:16). In addition, a 1928 Forest Service map shows the Moyie Trail taking a route down Round Prairie Creek to Gillon Creek and then up into Canada (Hudson et al. 1979:16). The route up Gillon Creek was later to become one of the first roads into Canada from Boundary County. From personal research as well as surveying that he did for a game survey in the 1930s, oral history interviewee, Alvin Flory, believed that the Wild Horse proceeded north and east through Round Prairie and followed Shorty Creek. He remembered seeing trail indentations in both the Brush Creek and Round Prairie areas, as well as blazes he claimed that miners had made. A cabin said to have been used as a halfway house for miners on the trail was also pointed out to him by early pioneers in the Round Prairie area (Flory I,A,17-20; I,B,34-39:30).

The Wild Horse Trail received its present name as a result of the 1860s gold rush to the Wild Horse country in British Columbia. This trail was the main route of travel for the gold seeking miners traveling from the south. Routes also existed from western British Columbia, but they were not as well established and trade was not as dependable. A portion of the route through Idaho was shortened in the late 1860s when steamers were introduced to Lake Pend Oreille. From this time, miners were able to catch a steamer at the southern end of the lake and be dropped off near what is now Kootenai. Miners also going to Montana could take a steamer to Cabinet Gorge, thus cutting out the arduous route around the northern edge of Lake Pend Oreille.

The route of the Wild Horse Trail was that of least resistance. In later years, the trail route remained popular for travelers and portions of it were followed by the railroads. As travel began to increase and settlers began to claim land in northern Idaho, other roads appeared. A section of the Wild Horse Trail between Kootenai and Bonners Ferry was improved in the late 1800s by a Dr. Hendry (Anonymous 1903:796). This individual widened the trail so as to allow wagon traffic and charged a fee for its use. In later years, Highway 95 followed much the same route. Other trails in this two county region included a route along the Kootenai River from Bonners Ferry into Montana and routes along the north shore of the Clark Fork, and Pend Oreille Rivers.

COEUR d'ALENE NATIONAL FOREST
BLM - COEUR d'ALENE

The Mullan Road is the best known road in the Coeur d'Alene area. Its route, in part, followed established Native American trails. This road was constructed to secure an east-west route of passage for troops, settlers, and freight in the event that hostile action closed the Oregon Trail. At the time, the Oregon Trail was the only complete east-west route to the Pacific Northwest.

The Mullan Road had a western terminus at Walla Walla and an eastern terminus at Ft. Benton on the Missouri River. Construction of the road began in late 1858 and was led by Captain John Mullan who had been associated with the early railroad surveys in north Idaho. The original route of the road passed below Lake Coeur d'Alene and north along its eastern shore to the Coeur d'Alene River which was followed until the Bitterroot Mountains were reached where it crossed at St. Regis Pass. The road was completed in 1861, and shortly thereafter the portion around the southern end of Lake Coeur d'Alene was abandoned in favor of a route around the northern end of the lake which was less prone to flooding. Goods and travelers began to move over the road right away, but it soon became almost impossible because it was not maintained. This condition was due to the fact that nearly all governmental attention was being focused on the Civil War. As a result, the route became more of a trail than a road, although it was still used by traders, miners, and some settlers.

In the early 1900s, much of the Mullan Road route was followed as a "highway" was surveyed and built through the Coeur d'Alene River valley. This road crossed the mountains at Mullan Pass and has been called the Old Yellowstone Trail (Carbonneau-Kincaid et al. 1980).

Twenty years after the Mullan Road was built, gold was found in the Coeur d'Alene valley. This discovery caused a flurry of excitement and it brought hundreds of people into an area that had previously been isolated. There were no major roads or railroads into the area, so, out of necessity, people developed trail systems utilizing trails that had no doubtedly been used by Native Americans in the past. Some of the more popular early trails included the Jackass, Sky, Thompson Falls, Belknap, Trout Creek, Evolution, and Coeur d'Alene River trails. The routes of these trails are discussed in the Coeur d'Alene National Forest - BLM Mining section. The trails coming in from Montana (Thompson Falls, Belknap, and Trout Creek) were short-lived. Their popularity lasted for one year or maybe two. The bulk of mining traffic came from the west after the initial rush. Those areas of the Coeur d'Alenes that were not heavily impacted by mining remained relatively isolated for many years. It was not until logging expanded in the early 1900s that access to areas such as the Little North Fork of the Coeur d'Alene River was attainable by any means other than a trail.

ST. JOE NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

It is believed that, because one trail carried his name on maps, Father DeSmet passed over the old Montana Trail. The Father DeSmet Trail followed ridgetops in the high country as did most Indian trails. Beginning at St. Regis, the trail led up Mullan Gulch laying the course for what was to be the Mullan Road, then veered off up Deer Creek. Across the Idaho-Montana border, the trail headed a half mile west of Ward Peak and to the head of Gold Creek, south to Beetle Hump and to Bear Springs. Crossing the St. Joe River at Conrad's Crossing over a log jam, the trail then followed the divide between Mosquito Creek and the east fork of Bluff Creek to Junction Peak. Here the trail forked; one part led on to the mining and boomtown at Moose City on the Clearwater and the other part continued on to Bathtub Springs. From there, the trail passed northwesterly on the divide between Bluff and Spotted Louie Creeks to Mammoth Springs (Crowell and Asleson 1980:8).

At the head of Spotted Louie Creek was Hoodoo Springs where the trail went on the Bearskull then to the Little North Fork of the Clearwater and to Monumental Buttes. "From there the Father DeSmet or Montana Trail bore southwesterly on the divide between Rocky Run and Foehl Creeks...Jug Camp was the next major spot on the trail... From Pinchot Springs to Hemlock Springs...the trail wound its way near Freezeout...At Marks Peak the trail divided, one part going on to Windy Peak and following the St. Maries River. The other part headed out over Grandmother and Grandfather Mountains, Elk Mountain, and on to Santa Creek..." (Crowell and Asleson 1980:8-9). Charles Scribner, who was the major consultant in pinpointing the preceding trail route, provided a similar description for the course of the Montana Trail in oral history interviews (Scribner I,A,15-28).

The first Euroamerican women, four nuns enroute to teach at St. Ignatius, Montana, in 1864, may have entered the Coeur d'Alene territory by way of the Montana Trail (Crowell and Asleson 1980:9). Camels also traveled the Montana Trail as did Native Americans, prospectors, and future homesteaders. Another route into the St. Joe area was established by Captain John Mullan (Crowell and Asleson 1980:10).

The Monument Trail, established by Native Americans, ran east and west along the divide between the St. Joe and Coeur d'Alene rivers. The route connected northern Idaho and eastern Washington with western Montana, thus encompassing and connecting the Missoula country with the territory of Coeur d'Alene Lake, the Palouse country and areas of eastern Washington as far south as the Snake River (Scott 1967:255,256).

The trail began in the Worley and Plummer area and crossed the St. Joe River near Chatcolet, then followed the north bank of the river to Mission Point, where it forked. The main trail, or north fork, followed the St. Joe-Coeur d'Alene river divide from Harrison Flats into Montana. It wound its way up the mountainsides to Harrison Flats where it turned eastward toward Grass Mountain. From the southwestern slopes of the mountain it headed toward the north fork of Hell's Gulch meeting the main divide in the saddle at the head of the creek between Grass Mountain and Engle's Mountain, also known as Round Top Mountain. Crossing west-east over the top of this mountain, it then continued along the divide around Butte and Sisters Peaks and into the area at the head of Rochet Creek. Continuing in an easterly direction, it passed through the gap between East and West Baldy (Weissner's Peak), south of Mirror Lake and on to Montana (Scott 1967:255-256).

The east branch of the Monument Trail followed the north bank of the St. Joe River to Hell's Gulch and then went up that creek to the east end of Harrison Flats where it united with the main trail (Scott 1967:255). The south fork of the trail followed the St. Joe River on the north bank from Mission Point to the mouth of Rochet Creek, then climbed steeply to the southwest side of Weissner's Peak, and united with the main trail at the head of Reed's Gulch (Scott 1967:42-43).

Water Transportation

On November 18, 1865, the *Forty-Nine* was launched by Captain Len White at a point just south of the Canadian border on the Columbia River. Built to capture the trade White expected to be generated by the initial Wild Horse gold rush, the new vessel ran between the Little Dalles on the Columbia River and Arrow Lakes in British Columbia until 1870 (Downs 1971:41). She was never very profitable due to the fizzling out of the gold rush, but the *Forty-Nine* did have the distinction of being the first steamer in the northern Idaho/northeastern Washington region.

The use of natural waterways for transportation was a vital element in the development of this region. Steamboats provided the primary transportation link that made possible the early exploitation of the mineral and forest resources in the regions contiguous to the Columbia River, the Kootenai River, Lake Pend Oreille, the Pend Oreille River, the Clark Fork River, the Coeur d'Alene River, and the St. Joe River. Indeed, in the early phases of exploitation, steamboats often provided the only feasible transportation approach.

There were two distinct types of maritime transportation present in the region. Classic western river and lake steamboats were characteristic of the best known type. These vessels were usually of relatively shallow draft, steam drive, and wood fired. Most of the early steamboats were paddlewheelers, but propeller-driven vessels were also common, especially in the latter years of the steamboat era. Steamboats transported passengers, supplies, and mineral ore.

Tugboats were characteristic of the second type of maritime transportation. Whether of steam, gas, or diesel type, the tug was, and in some cases continues to be, the unsung workhorse on the waterways of the region. Tugs were almost always propeller-driven with a low freeboard. They became important when the exploitation of forest resources boomed in the 1890s.

THE COLUMBIA AND KOOTENAI RIVERS TRADE

The trade that Captain White tried to capture with his *Forty-Nine* did not materialize soon enough to save that particular vessel. It did, however, eventually blossom. By 1890, the region's mineral output was nearly \$74,000. Eight years later, that figure had jumped to \$6.5 million (Downs 1971:42). Steamboats working between the United States and the Kootenay-Arrow region of British Columbia on the Columbia and Kootenai rivers were an important link to the nearest source of supplies and processing facilities.

Bonnars Ferry was located at the head of navigation on the Kootenai River. It was also the closest point to the Northern Pacific Railroad line thirty-nine miles further south at Sandpoint. In 1884, a quite small propeller-driven steamer named the *Midge* was hand carried from Sandpoint to Bonners Ferry. She was the first steamboat to navigate the Kootenai River and Kootenay Lake. In the years that followed, a large number of steamboats were built by the Columbia and Kootenai Steam Navigation Company (CKSN), a Canadian company set up to serve the needs of the mining interests.

Bonnars Ferry became increasingly important as a supply point. A toll road was constructed between Kootenai and Bonners Ferry in 1885 (Anonymous 1903:796). It was not, however, until the Great Northern Railroad (GN) came through in 1892 that the town really started to grow.

During the 1890s, three railroads - the GN, the Spokane Falls and Northern Railroad (SF&N), and the Canadian Pacific Railroad (CPR) would engage in an intense competition for the shipping trade of the Kootenay-Arrow region. The CPR supplied the region from Revelstoke far to the north, while both the GN and SF&N were able to supply it from more easily accessible steamboat ports to the south. The U.S. suppliers had the further advantage of being able to draw on both transcontinental rail connections and the agricultural bounty of the Inland Empire. At this time, the CPR had only connections to the east.

Steamboat traffic between Northport, Washington, and Arrow Lakes all but ceased when a spur line was completed by the SF&N in 1893. This move made the SF&N a prime contender for the area's trade until 1898 (Downs 1971:51). By that year, the CPR had purchased the CKSN, thus gaining control of the majority of steamboat traffic in the area. The GN had added its own steamboats, the most important one being the *State of Idaho*. This vessel was constructed in Bonners Ferry and ran between that point and Kaslo, B.C.

By 1900, steamboat traffic on the Kootenai River and Columbia River in the United States had dwindled dramatically. The GN completed connections to the Kootenay-Arrow region from Bonners Ferry in the late 1890s. It also bought out the SF&N from D.C. Corbin of Spokane. After this time, traffic on both rivers was limited to providing local service to agricultural and timber interests along their shores.

PEND OREILLE LAKE REGION

The *Mary Moody* was launched in May of 1866 at Seneacquoten on the Pend Oreille River. She was to be the primary link in the Oregon Steam Navigation Company's (OSN) attempt to capture the trade going to and from the Montana gold fields at that time. The following passage from Fritz Timmen's *Blow for the Landing* describes this route and the hardships involved in traveling it.

The route from Portland to the Missoula mining region put to the test the OSN's service, and no less it tested the miner bound for the diggings. He left Portland by boat, took the rail portage at Cascade Locks, then was carried by another boat to the Dalles where he portaged around Celilo Falls. A third steamboat took him to a Snake River landing from whence he faced a bone-bruising stage ride to the head of Lake Pend Oreille.

During yet another steamboat trip across the lake and up the Clarke's Fork River to Cabinet Rapids, the traveller could recuperate and prepare for further travail. After a short stage ride he boarded the steamer *Cabinet* for the run to Thompson Falls. Above this obstruction waited the *Missoula*, last link in this seemingly endless transportation chain, to convey the weary argonaut a few miles further to the mouth of the Jocko River. Here the OSN's obligation ended; it had run out of rivers. At that point, the sufferer was on his own, yet a hundred miles from the Missoula mining region (Timmen 1973:125-126).

Never very profitable, this transportation network fell into almost complete disuse by 1870 when the fever of the rush cooled. The *Cabinet* and *Missoula* were brought downriver to Lake Pend Oreille during a high water period. There, the three sternwheelers sat nearly idle until 1876. At that time, the OSN had them dismantled. Their machinery was hauled overland to the Snake River and then by steamer/portage back to Portland (Timmen 1973:126).

When the Northern Pacific Railroad completed its line through Sandpoint in 1882, lake traffic began to increase once more. The increase was minimal, however, until 1888 when the mining properties at Lakeview were discovered by William Bell and others (Anonymous 1903: 811). The gold rush that resulted prompted the building of several steamboats to serve this isolated area. Although the mineral resources of the area have never proven to be of great value, their development stimulated the creation of a small steamboat commerce that would be maintained into the 1920s.

The completion of the Great Northern Railroad in 1892 added a measure of impetus to the lake traffic. Rail terminals were available at Hope, Sandpoint, and Priest River on the northern end of the Lake Pend Oreille basin. Steamers ran between these points and the landings at Lakeview and Steamboat Landing (now Buttonhook Bay) at the southern end of the lake. An important wagon road connected Steamboat Landing to Rathdrum at that time.

By 1903, "steamers ran from Sandpoint to Hope, Lakeview and Idlewild (formerly Steamboat Landing), on the lake and as far down the Pend Oreille River as the towns of Priest River and Albenie Falls" (Anonymous 1903:796). At this time, three steamboat lines served the lake, and steam tugs were becoming increasingly important as timber

interests began in earnest to exploit the forest resources around the waterways. The Humbird Lumber Company was a major participant in all phases of lake transportation. It then operated the *Pend Oreille* and the *Daisy*.

Small steamboats also operated on Priest Lake in the early 1900s. Based mostly out of Coolin on the southern end of the lake, they served the timber, recreation, and to a lesser extent, mineral exploitation industries. Log drives on the Priest River, Pack River, and Clark Fork River were also an important element in the early waterway transportation network. Tugs were used to haul the logs once slack water was reached.

By the early 1930s, passenger and freight traffic on the lake was rapidly becoming insignificant. The mining and concrete activities at places like Lakeview and Whiskey Rock faded, and with them faded the era of steamboats on Lake Pend Oreille.

There was a small amount of tugboat activity on the Pend Oreille River below Albeni Falls during the timber boom period. Tugs and small passenger vessels continued to provide important services on Lake Pend Oreille, Priest Lake, and the Pend Oreille River for many years after the demise of the larger steamboat lines. These services faded as the automobile and trucking network became more and more pervasive.

THE LOWER PEND OREILLE RIVER

The lower Pend Oreille River, extending from Albeni Falls downstream to the Canadian border, was used as a transportation route by miners in the 1860s who used canoes and log rafts to move their provisions. One enterprising fellow later offered the services of his bateaux to move provisions and prospectors downstream. However, this venture was short-lived when the fellow decided he would take to prospecting instead of rowing and poling up and down the Pend Oreille (Barker 1979b:84).

Commercial steamboat transportation did not actively begin on the lower Pend Oreille until 1887 when a Mr. Billings built the *Ruby* (or *Bertha*). The *Ruby* made a few runs on the river before Mr. Billings decided it was not going to be a profitable venture. Eventually, the *Ruby* was moved to Spirit Lake. In 1889, the *Torpedo* was built with the intention of hauling passengers and freight up and down the Pend Oreille. All went well for a few months until the *Torpedo* caught fire and burned.

The next steamer to make a try at the lower Pend Oreille was the *Dora* which was a screw-propelled steamer some 65 feet long with a passenger capacity of 30 to 40 individuals in addition to freight (Barker 1979b:85). The *Dora* was operated successfully for a number of years until it caught fire while tied up at Mamaloose Point below Ruby (Barker 1979a:42). The same year the *Dora* was built, Joe Cusick built the *Red Cloud*, and two years later he increased his holdings by building the *Volunteer*. A few years after this, Cusick sold the *Red Cloud* to George H. Jones after it had been run aground on a sandbar (Barker 1979a:42). In 1896, Jones added the *Columbia* to his steamship line and Cusick built the *New Volunteer*. These two steamers worked the Pend Oreille River from Albeni Falls to Box Canyon until 1906 when the owners sold their interests to the Pend Oreille River Navigation Company.

Several other notable steamers were active on the Pend Oreille prior to 1900. One of these was the *Pend Oreille* which was brought from Flathead Lake over Albeni Falls. After arriving, it was converted from a side wheeler to a sternwheeler and christened *The Metaline* (Barker 1979b:85). This steamer was soon part of a government sponsored project to determine the navigability of Box Canyon. It only took *The Metaline* two minutes to make it through the canyon but the trip back upstream took two weeks. For the time being, steam operators contented themselves with providing transport between the canyon and Albeni Falls. Transportation below Box Canyon was provided by the steamer *Elk* which operated between the canyon and Metaline.

The first decade of the twentieth century brought at least seven new steamers to the lower Pend Oreille River. In 1904, the steamer *Spokane* was shipped to the area from Flathead Lake and upon arrival, it provided passenger, freight, and mail service to points along the river. This steamer also towed and pushed barges of lumber, poles, and other forest products to Newport from up and down the river. There were also a number of tugs that performed these same functions for the different lumber companies along the Pend Oreille. The *Sarretta*, *Defender*, and *Clearfield* were all built for these tasks. The Pend Oreille River and Navigation Company increased their fleet with the construction of the *Newport* in 1906.

In 1908, the Pend Oreille Navigation Company was bought out by the Idaho-Washington Northern Railroad Company who was anticipating the construction of their railroad to Newport. Soon thereafter, the railroad built the *Ione* which had a 500-person and 520-ton freight capacity. From late summer 1908 to 1909, the railroad offered a Sunday round-trip excursion from Spokane to Ione. Between Spokane and Newport the passenger went by rail and from Newport to Ione they went by steamer, all for \$5.00 (Barker 1979b:87). This excursion proved quite popular

and the *Ione* was nearly full for each trip. *The Ruth*, *The Nancy*, and the *Metaline* (another *Metaline*) were also built in 1908, but by private concerns. *The Nancy*, a gasoline launch, and the *Metaline* were able to navigate Box Canyon and offered daily round trips between Metaline and Newport. Steamer use began to taper off in the 1910s, and by the end of the decade most of the boats were involved in tug operations for lumber companies.

LAKE COEUR d'ALENE AND ITS TRIBUTARIES

In August of 1800, the U.S. Army launched the *Amelia Wheaton* at Fort Coeur d'Alene, later renamed Fort Sherman. This event marked the beginning of an extremely active period of steamboat commerce on that lake and her tributaries. Through explorations undertaken by the *Amelia Wheaton*, the St. Joe River and the Coeur d'Alene River were both found to be navigable for approximately 35 miles above the lake. This discovery meant that there were over 100 miles of navigable waterways serving remote areas that would prove to be rich in both mineral and forest resources.)

Andrew J. Prichard and a small group of fellow prospectors found gold in the Prichard Creek valley in 1882. News of this discovery prompted a gold rush during 1883 and 1884. The winter of 1883-1884 saw the building of two steamboats at Coeur d'Alene City. The more important of these boats was the *Coeur d'Alene*, a large stern-wheeler built for Portland interests.

Before the last embers of the Prichard Creek gold rush had faded away, prospectors were already busy developing the rich silver and lead deposits in what is now the Coeur d'Alene Mining District along the south fork of the Coeur d'Alene River. In 1886, D.C. Corbin put together the Coeur d'Alene Railroad and Navigation Company. This transportation network consisted of a narrow gauge railroad from the mining district to the head of navigation on the Coeur d'Alene River at Old Mission Landing, a steamboat line from this point to Coeur d'Alene City, and a broad gauge rail connection from there to Hauser Junction on the Northern Pacific Railroad (NP) mainline.

When, in 1889, the Oregon Railway and Navigation Company completed a spur line into the mining district from the west (Anonymous 1903: 1032), the NP purchased Corbin's rail/steamboat line in an effort to maintain a portion of the ore hauling trade. The NP had a new vessel, the *Georgia Oakes*, built during the winter of 1890-1891. This 150-foot long sternwheeler would later be considered the queen of Lake Coeur d'Alene's steamboats (Hult 1964). Steamboats continued to haul ore from Old Mission Landing during the early years of the 1890s. Competition from the OR&N and NP's spur line into Wallace from the east eventually ended this era.

By the late 1890s, eastern lumbering concerns had begun to show an interest in the white pine forests of the Coeur d'Alene region. Most of this attention was focused on the vast forests adjacent to the St. Joe River drainage. Lumber mills began to appear in Coeur d'Alene and Harrison. In 1901, the first of a new fleet of steamboats, the *Spokane*, was completed in Coeur d'Alene. She was propeller driven, setting an example that would be copied by most of the boats to come thereafter.

While vessels like the *Spokane* and the *Georgie Oakes* served the passenger and freight trades, a fleet of tugboats was being built to move the massive quantity of logs from the mouths of the St. Joe and Coeur d'Alene rivers to mills in Harrison and Coeur d'Alene. The largest of the early steam tugs was the *St. Joe*. She was constructed in Coeur d'Alene in 1902.

Sorting gaps were used at the mouths of the rivers to collect and sort the logs brought down during the spring log drives. The largest sorting gap was operated by St. Joe Boom Company at the mouth of the St. Joe River. Steam tugs were used extensively in handling the log booms at sorting gap operations.

Two major steamboat lines were operating on the lake by 1906. Between them, they had acquired or built most of the major passenger boats that would serve the lake. The White Star Navigation Company (WSNC) operated the *Boneta*, *Flyer*, and *Georgie Oakes*, while the Coeur d'Alene and St. Joe Navigation Company or Red Collar Line (RCL), was operating the *Spokane*, *Colfax*, and *Idaho*. An electric railway line, the Spokane and Inland Empire, provided direct connection between downtown Spokane and the steamboat docks in Coeur d'Alene. St. Joe City, St. Maries, and Harrison were the major ports of call for Coeur d'Alene steamers. Indeed, Harrison had become the economic focal point of the region. In addition to being a major processing center for wood products, it also served as the transfer point for passengers traveling between Spokane and the Coeur d'Alene Mining District via the electric line-steamboat-OR&N route.

Maritime activity on the lake received a boost in 1906 when the Milwaukee Railroad announced it would be building its main line down the St. Joe River valley. The town of St. Joe City, located at the head of navigation on the St. Joe River, boomed as it took on the role of supply and recreation center for the construction activities. Steamboat business was never better as several small companies joined the WSNC and RCL.

The competition for lake trade between 1906 and 1909 was brisk. During this period, the Red Collar Line intensified its efforts to gain a monopoly on lake trade. By the end of the period, with the completion of the railroad construction, the RCL had a virtual monopoly having bought out the WSNC and several smaller companies.

Hayden Lake was also the scene of steamboat activity during the heyday of the era. A spur line of the Spokane and Inland Empire connected Coeur d'Alene City and Bonanza Tavern at the south end of Hayden Lake. Steamers worked between that point and various points around the lake serving local and tourist needs.

The economic blow of the 1910 forest fire was especially hard-felt in the Coeur d'Alene region. This factor, combined with ever improving overland transportation facilities, began to erode the basis of the steamboat business. In 1917, a devastating fire destroyed most of Harrison, eliminating a major part of the maritime market. After that time, passenger service on the lake declined dramatically. By 1927, the Red Collar Line could no longer sustain itself and was eventually purchased by Potlatch Lumber Company. The last of the large passenger boats, the *Flyer*, was disposed of by burning in 1938.

Tugs continued to be and still are an integral part of the forest products industry in the area. Many of the lumber companies maintained small fleets of tugs. In addition, A.B. Lafferty built up a rather large fleet of tugs to move the logs from the rivers to storage areas near the sawmills. Dudley on the Coeur d'Alene River and St. Maries on the St. Joe River became important booming points. Today, much of the timber cut in Coeur d'Alene sawmills is still moved by tugs.

Railroads

Development of the steam locomotive began as early as the late 1700s. However, it was not until 1830 that the first train of cars pulled by a locomotive was operating on a regular basis in the United States. As locomotives and railroad cars evolved, changes were made to suit the geography, climate, and load conditions of the areas in which they were to operate. For example, locomotives in the United States differed from those in Europe in that American models included cow catchers, a cab to protect the engineer from winter weather, a sandbox from which sand could be used to maintain traction on steep grades, and sets of wheels for guiding the locomotives on sharp winding tracks.

Locomotives were propelled either from within through steam or diesel electricity, or from an external electric system. Today, diesel has virtually replaced steam which was once the major power source for locomotives. Steam locomotives dominated from the mid-1800s to the end of World War II producing their power through the combustion of either wood, coal, or oil.

During the late 1800s, preliminary development of the electric locomotive began. By 1895, the first main line railroad in the United States was electrified. The electric locomotives have been used principally on main line railroads to move passenger and freight cars. Electric locomotives have also been popular in the industrial community. Mines have employed them to haul coal and ore to the surface and steel mills to move materials and supplies from place to place.

As the electric locomotive developed and gained some popularity, particularly in the east, mainline locomotives in the project area generally remained steam powered. The notable exception to this rule was a section of the Chicago, Milwaukee, and St. Paul Railroad, located along the St. Joe River from Avery into Montana.

Steam and electric locomotives have both given way to the diesel propelled locomotive in popularity. The first successful diesel/electric locomotive in the United States was built in 1925. Since the 1930s, the technology of railroading improved rapidly. The need for faster heavy duty locomotives prompted the industry to develop more efficient equipment.

The cars that were pulled by the locomotives were generally passenger, freight, or work trains. Early passenger cars were modeled after horse-drawn coaches and were made from wood. Some of the early private cars were so elaborately furnished that one would hardly have known they were in a train. Eventually, the wooden cars were built with steel underframes and by the early twentieth century, the entire car was of steel construction. Freight cars are now built with high strength alloy steel for better handling of heavy loads.

Today, nearly all railroads run on T-section steel rail. Early day trains moved over wooden rails covered with a band of metal. These rails seemed to have functioned fairly well, but maintenance was high. At times, it became bothersome to the passengers when the metal bands broke loose from the rail, coiling up like springs and breaking through the floor of passing cars.

Generally speaking, rails are and have been laid on and attached to wood ties. The ties are usually laid on a bed of ballast which ideally consists of rock crushed to two inches. Gauge of the track is determined by the distance between the parallel rails. The most common gauge in the United States is standard, which is 4 ft. 8½ in. apart. In the 1880s and 1890s, narrow gauge, 3½ ft., was very popular in the United States. It was cheaper to construct and maintain; however, these qualities were not enough to overcome the popularity of standard gauge.

The development of railroads in the Inland Empire had a significant impact on the economy and settlement of the area. The lumber and mining industries were able to expand with improved transport offered by the railroads. Towns were often established only after a railroad line was constructed through the area, and agricultural and ranching communities benefited from the improved modes of shipping products to market. See Figure 17 for the location of railroads in the Inland Empire.

COLVILLE NATIONAL FOREST BLM - SPOKANE DISTRICT

This region of northeastern Washington remained fairly isolated without rail transportation through the 1880s. Steamers had traveled the Columbia north from Kettle Falls to the mines in British Columbia since 1865. As early as 1866, steamboats provided limited access to the Meteline District from Newport on the Pend Oreille River to Ione (Holstine 1978:26).

The growing metropolis of Spokane Falls was a town of 25,000 people and 85 saloons by 1889. Since the arrival of the Northern Pacific Railroad in 1881, the town's growth had increased. From the east, west, and south the railways brought ore, timber, grain, and other raw materials to Spokane Falls' smelters and mills. "Enterprising businessmen in the city and residents of northeastern Washington were quick to see the mutual advantages to be gained by a rail line running to the north" (Holstine 1978:26-27). In May of 1889, the Spokane Falls and Northern Railroad Company (SF&N) began laying track out of Spokane Falls north bound toward the Columbia River. From there, steamboats would connect Spokane Falls with the Canadian Pacific at Revelstoke, British Columbia. The project was a joint venture of several local businessmen financed and directed by D.C. Corbin who had managed railroads in the eastern United States and built a line into the Coeur d'Alene Mining District. "Under his supervision, tracks were laid northward along the old Colville military trail, avoiding natural obstacles such as big trees and rocks in order to save money. The meandering, crooked line soon gained the nickname 'The Snake' from the railroad men" (Holstine 1978:27-28).

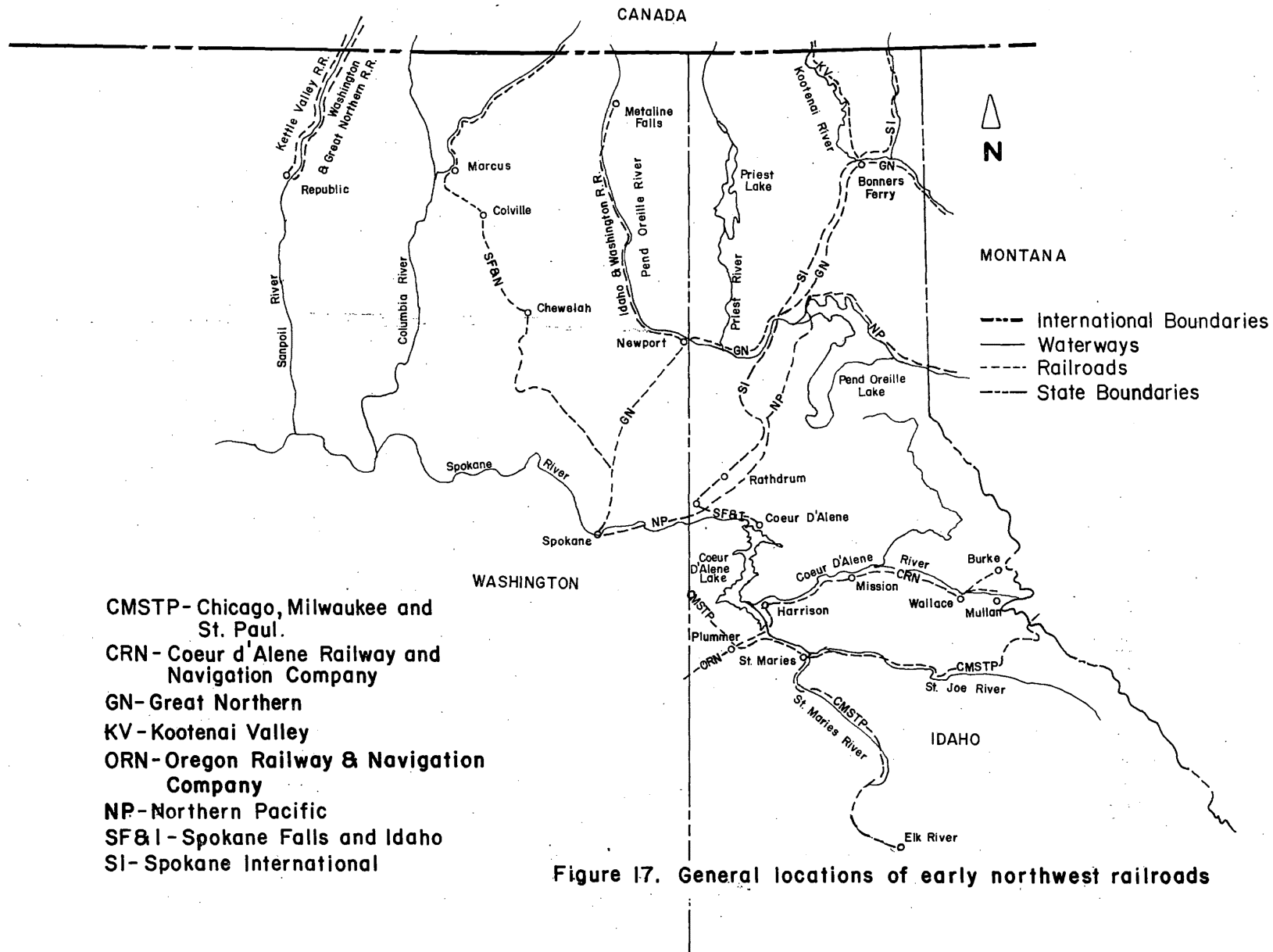


Figure 17. General locations of early northwest railroads

The SF&N entered Colville in October of 1889. In the spring of 1890, construction began again and the rails reached Marcus in May, having completely bypassed Kettle Falls. Two years later, tracks were built into Northport. "Corbin soon built lines farther north to the mines of Nelson and Rossland, British Columbia, providing Spokane with its major source of wealth in the 1890s. Business transactions doubled between 1894 and 1897 in the city, and the population rose to 35,000 (Holstine 1978:28).

Not until the summer of 1902 did a railroad penetrate Ferry County. In this year two railroads reached Republic, the Kettle Valley line connecting with the Canadian Pacific at Grand Forks, and the Washington and Great Northern, a Great Northern Railroad enterprise, connecting with the Spokane Falls and Northern Railroad at Marcus (Anonymous 1904:411).

In 1889, the route of the Great Northern Railroad was surveyed through Pend Oreille County. By 1891, the roadbed was graded and by the following spring, the rails were laid down (Dinger 1979:16). The Great Northern Railroad route proceeded northeast from Spokane to Newport, then along the northern bank of the Pend Oreille River to Sandpoint and on to Montana via the Kootenai River. The construction and completion of this railroad had a tremendous impact on the settlement of the Pend Oreille River valley by increasing accessibility to the area.

The Pend Oreille valley was further developed when the Idaho and Washington Railroad was constructed to Newport in 1907. The terminus of this railroad was extended to Lone in 1909 and to Metaline Falls in 1910 (Dinger 1979:21). This railroad greatly increased the flow of raw materials such as timber and ore from the lower Pend Oreille River area to markets outside the county. It also served to increase settlement in the valley. This railroad was operated by the Chicago, Milwaukee, and St. Paul until the mid-1970s when it was abandoned.

KANIKSU NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

Major railroads in Bonner and Boundary counties include the Northern Pacific, the Great Northern, and the Spokane International. The Northern Pacific was the first railroad to penetrate the isolated valleys of far northern Idaho. The survey of a route for such a railroad was conducted in the early 1850s and was led by Isaac I. Stevens (see Exploration Section). The federal government offered a grant of lands as an incentive for businesses to build a railroad along

this sparsely populated route. This grant secured for the railroad company every alternating section of public land not already withdrawn. This amounted to 20 alternating, odd-numbered sections per mile, on each side of the track (Livingston-Little 1960:64). "In Idaho the granted lands were 40 miles on either side of the track and whenever prior grants had been made...other lands would be selected by the company in lieu thereof in alternating sections designated by odd numbers not more than 10 miles beyond the limits of the granted lands." (Livingston-Little 1960:64). The total granted lands in Idaho, excluding the 200 foot right-of-way on either side of the track, was 1,256,615.76 acres (Livingston-Little 1960:64). Most of these lands were later sold to logging interests and settlers.

By 1882, the Northern Pacific Railroad had been constructed through northern Idaho passing through Rathdrum, crossing over Lake Pend Oreille, continuing along its northern shore to the Clark Fork River, and on into Montana. Thousands of workers were engaged in the construction of this railroad. Chinese were recruited from the Orient when advertisements for "7000 laborers of any color" failed to bring the needed numbers of workers (Elsensohn 1979:114).

Chinese were also employed on the construction of the Great Northern Railroad in the early 1890s. As a result, a small Chinese community was established on the outskirts of Bonners Ferry. Local settlers took exception to their presence and expelled them via two boxcars (Anonymous 1903:797).

The Great Northern Railroad route followed along the north bank of the Pend Oreille River to Sandpoint where it veered north to Bonners Ferry. From here, it paralleled the south bank of the Kootenai River into Montana. This railroad was the impetus for the establishment of new communities along its route and for an increase in the development of timber and mineral resources. Today, this railroad route is part of the Burlington Northern Railroad system.

In 1899, a lesser known railroad was built in Boundary County. Crossing the international border at Porthill, the Kootenai Valley Railroad proceeded to and terminated at Bonners Ferry. This railroad was important for routing import and export trade through Porthill and to and from Bonners Ferry (Anonymous 1903:776). Since these early days, the railroad came under the administration of the Burlington Northern Railroad and was later abandoned. Much of the route is now a county road.

The third major railroad built through the Bonner-Boundary area was the Spokane International. This railroad began operation in 1906 and followed a route from Spokane east toward Post Falls, where it veered northeast to Sandpoint, continuing north to Bonners Ferry. At this point, the route took an eastern turn to follow the Kootenai River until it reached the Moyie River, where the railroad headed north again, crossing the international boundary at Eastport and eventually connecting with the Canadian Pacific Railway. In 1910, a branch line was extended from Corbin Junction to Bayview only to be abandoned in 1939 (Anonymous 1965:2-3). Today, the Spokane International is part of the Union Pacific Railroad system.

COEUR d'ALENE NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

The first railroad in the Coeur d'Alene area was the Northern Pacific. Its location is actually to the west and north of this region, but it was the first source of railroad transportation in the immediate area. This railroad was built between 1880 and 1882. The route of the Northern Pacific from Spokane passed through Rathdrum and on north to Sandpoint where it paralleled Lake Pend Oreille and the Clark Fork River into Montana. In 1886, a branch of the Northern Pacific was extended from Hauser Junction to Lake Coeur d'Alene (Anonymous 1903: 769), where passengers and freight usually transferred to a steamer that made its way up the Coeur-d'Alene River to the Old Mission and, occasionally, as far as Kingston.

In 1888, D.C. Corbin's Coeur d'Alene Railroad and Navigation Company built a narrow gauge line from the Old Mission to Wallace (Hobson 1940:41). Shortly thereafter, a narrow gauge branch line was built up Canyon Creek, a distance of seven miles, linking Wallace and Burke (Livingston-Little 1965:79). This line was standardized in 1890. The same year, a shortline was constructed up Ninemile Creek from Wallace to the mines in the Sunset Peak area (Livingston-Little 1965: 77). As the Oregon Railway and Navigation Company (ORN) extended its line from Harrison to Wallace (soon extending it to Mullan and Burke) in the mid-1890s, Corbin's Old Mission to Wallace route was abandoned (Hobson 1940:41). A few years prior (1891) to this move, the Northern Pacific extended its railroad from Missoula to Wallace (Hobson 1940: 41) via Lookout Pass. Thus, by the late 1890s two major railroads, the Northern Pacific and the Oregon Railway and Navigation (now the Union Pacific) competed for the same business in the heart of the Silver Valley. This situation was to change, however, in 1897 when the Northern Pacific and the ORN entered into an agreement whereby the ORN would abandon its line into Mullan and in return, it would handle all of Northern Pacific's business into Kellogg (Hobson 1940:41).

Later railroads included the Spokane International, which followed a route from Spokane to near Post Falls where it proceeded more or less north to the International Boundary. Built in 1906, it extended a 9.04 mile branch line from Coeur d'Alene Junction to Coeur d'Alene in 1920 (Anonymous 1965:2). Also, in 1910 the Idaho Northern Railway was built from Enaville to Murray; however, flooding in 1917 washed the tracks out and it was never rebuilt (Hobson 1940:41). Union Pacific had just completed a branch railroad from Delta to the Red Monarch Mine when it, too, was washed out in 1917 (Hobson 1940:41). From this point on, the major railroads have remained relatively unchanged with the exception of a few abandonments.

ST. JOE NATIONAL FOREST
BLM - COEUR d'ALENE DISTRICT

Railroad construction in northern Idaho was in progress during the discovery of the placer mines and the opening of the lead and silver veins, "which in a few years made Idaho the greatest producer of lead in the United States. From the Northern Pacific a branch line was built to the mining district, which materially assisted in the development of these great properties" (French 1914:411).

The survey for the Milwaukee Railroad, built by the Washington, Idaho, and Montana Railway, crossed Idaho in 1906-1907, with construction not far behind. It followed a route southwesterly from St. Regis Pass to the St. Joe River through Shoshone and Benewah Counties. Branches were built from St. Maries to Elk River, and from Spokane to Coeur d'Alene and Plummer. This expensive railroad was built without government assistance, and the 98 miles of main line in Idaho cost over \$11,000,000. Forty miles along the St. Joe River were built at the cost of over \$170,000 per mile and, at the time, was the largest amount ever paid by a railroad company for a similar length of line anywhere in the world (Bilger 1969:59). Service on the Milwaukee Railroad began in Idaho in 1909. Passenger service was opened from Seattle and Tacoma to St. Joe and Avery in July and August of that year. In 1910, services on a 71-mile branch began from St. Maries to Elk River (Bilger 1969:60).

By 1914, Latah County had railroads which traversed east and west penetrating all parts of the county. "All of the towns, except the mere hamlets enjoy this advantage, and each resource has, at its very door, the means of cheap and speedy conveyance" (French 1914:176). In addition to the Washington, Idaho, and Montana lines operating within Latah County in 1914 were the Northern Pacific, the Chicago, Milwaukee and Puget Sound; and the Oregon-Washington Railway and Navigation Company (French 1914:176).

COMMUNICATIONS

The telegraph was perhaps the beginning of modern communications in the United States. Samuel Morse developed this device in the late 1830s and soon thereafter telegraph lines were being constructed alongside railroads as they made their way across the country. By the mid-1870s Alexander Graham Bell had invented the first practical telephone. Popularity of this device grew rapidly during the 1890s and continued into the 20th century. Gradually the telephone replaced the telegraph as the major source for communications.

At the turn of the century, the wall set telephone was used by most customers. Each telephone was connected to a central switchboard which could connect the caller to the party to whom they wished to speak. This telephone looked like a rectangular box with a crank on the side and mouth piece on the front. The ear piece was separate, although it was connected to the wall box by its wire. By 1920 the first dial telephone had been developed, and by 1930 the first desk phone was in use. This phone enabled the user to speak and listen through one piece. The dial and body of the phone were separate. This arrangement was similar to the telephone we use today, although the "modern" desk phone was not introduced until the late 1940s.

The radio was also being developed in the early years of the twentieth century. Use of the radio for entertainment and news was at its height in the 1930s and early 1940s prior to the introduction of the television.

The field of communications has expanded so rapidly since the end of World War II that it has been difficult to keep pace with the changes. Today, satellites and computers have added new dimensions that have enabled the development of elaborate communication systems.

Information concerning the development of communication systems in the project area is scanty at best. References to the construction of telegraph and telephone lines in the area is usually peripheral to any discussion being reviewed. Usually telegraph lines followed the railroads when they were built, and when the telephone came into use, its lines were added when a new railroad entered a community. By the turn of the century, most fair sized communities had telegraph and or telephone service. If the town was without these services at this time, they usually received them in the new few years.

The bulk of information concerning communications comes from the Forest Service, which used, prior to 1950, an extensive telephone system to link their lookouts, guard stations, and ranger stations. J.H. "Bud" Coats, former regional communications officer for the northern region, compiled a brief history of the telephone and radio in this area. The major features of this history are presented in the

discussion below in an effort to expand the available information on the communications in the project area.

The Region 1 telephone system had its beginnings in 1910 when the following needs were outlined at a supervisors' meeting:

Telephone lines should be planned so as to be of use both for general administrative purposes and fire protection. It is usually advisable to connect most of the permanent Ranger Stations with the Supervisor's Office before telephones are extended into the back country. They should usually follow the main trails or roads... It was unanimously agreed that telephone construction is one of the most important phases of fire construction work. It was felt that cheap lines, strung mostly on trees with split-tree insulators, should be built to such points as could be easily reached by patrolmen in the remote District where without telephones it would be necessary to make a long, difficult trip in order to secure help, during which time the fire would have to be left (Coats 1978:1).

Between 1911 and 1920, hundreds of miles of single-wire, grounded telephone line was strung to connect the supervisors' offices with the ranger districts and the districts to lookouts and guard stations. The grounded wire system consisted of a single wire strung between trees, on split-tree insulators, with enough slack to allow a fallen tree across the line every ten spans before the line was rendered inoperable. Enough slack was left to allow the line to droop 12 feet (Coats 1978:2). To work, the electrical current in this line had to have a way to return. As a result, the ground was used as the conductor and hence the name grounded-return line which was later shortened to grounded line. Number 9 galvanized wire was used along these lines which were extremely reliable and usually only required maintenance each spring before the season began.

In cases where temporary telephone lines were needed, a small gauge steel and copper wire with fabric insulation was used (Coats 1978:5). These "emergency lines" connected guard stations and fire camps, and in the 1920s, BRC camps to Forest Service offices. This wire was hung in trees and on bushes and sometimes on the ground. It worked well in dry weather, but when it rained, it tended to go dead because the thin insulation had worn off.

The Forest Service used at least three different types of phones: the wooden wall phone, the Adams portable, and the iron mine phone. The wooden wall phone was most often found in Forest Service offices. The Adams was a field phone in a light leather case that could fit into a saddlebag. The iron mine was a phone in an iron box and was usually located in remote areas and was often used in emergencies.

The lookouts used headsets with side mouthpieces so their hands could be free for plotting fires.

The Forest Service allowed private individuals to tie into their telephone usually without cost or for a small fee. The main restriction was that the private users were asked to keep the lines clear during the fire season. Calls from private homes, lookouts, guard stations, or other sources were routed through the Forest Service switchboard.

During the 1930s, many new telephone lines were added to the Forest system. The majority of these lines connected CCC camps with Forest Service offices. The CCC strung most of these lines as part of their program. They also put in several two-wire metallic lines in most of the Forests in Region 1. This line was superior to the grounded type in that the voice quality was better. It also worked better during the dry months when the grounded lines had a tendency to store up electrical charges and begin to pop and crack. The problem with the metallic line was that it took more time to string and it was expensive to maintain. The lines had to be placed back from the roads for esthetic reasons and they had to be strung in such a way that the two lines did not become entangled and ground out.

During the 1930s and 1940s, the CCC maintained the metallic lines, but this service ended with the onset of World War II when the corps was discontinued. The Forest Service could not afford and did not have the personnel to maintain the lines so they fell into disrepair and disfavor by some. By the end of the War, the Forest Service began to abandon their telephone system and switching over to radio communication. Their telephone lines were either sold to private telephone companies or torn down.

Radios were first used in Region 1 in 1919 (Coats 1978:22). Some experimentation went on in the 1920s, but it was not until the 1930s that serious effort was put into developing a communications system based on the radio (Coats 1978). The Forest Service designed most of their own radio equipment because it was not available commercially. One of the radios that received heavy use was the SPF or Special Portable Fire unit. Radios proved their worth during the fire season by providing information on remote fires and firefighters so the firefighting efforts could be better coordinated.

After World War II, the Forest Service began to develop FM equipment in the 30-40MHz band which were battery operated (Coats 1978:28). As a result the TF lookout set was developed and later the SF (a handheld portable) and the KF (a mobil unit) were added. By 1960 most of these were phased out in favor of commercially available equipment (Coats 1978:28).

C U L T U R A L R E S O U R C E S Y N T H E S I S

Culture change and culture process in the study area during the prehistoric period appear to predominantly involve the interplay between the local culture systems and their natural environment. After about 1700, however, the cultural dynamics of the study area cannot be viewed in terms of such a relatively closed system. From the prehistoric through the protohistoric to the historic period, we see a shift from a largely natural effective environment to a predominantly cultural effective environment. The local culture systems found themselves in a situation requiring adaptive responses at a highly accelerated rate compared to the changes that had occurred before.

The adoption of horses brought increased mobility and a concomitant increase in contacts with peoples outside the area. This resulted in an accelerated rate of culture change towards an increasingly more complex society. The natural environment was still a very influential factor, for response to the arrival of horses was not uniform throughout the study area. Groups who inhabited semi-arid open terrain such as the Nez Perce, Palus, Spokane, and Upper Kalispel became nomadic bison hunters and traders for significant parts of the year, and the large "prairies" became the locations of villages whereas previously they had been ungulate ranges. The Coeur d'Alene, Colville, Lower Kalispel, and Lower Kutenai, however, inhabited forested terrain unsuited for pasturing large numbers of horses. These groups never fully adopted horses and continued to pursue more traditional, sedentary lifestyles which persisted into the twentieth century in some cases.

Epidemics, the fur trade, and missionization had the cumulative effect of centralizing the populations. The once numerous and politically independent bands were drastically reduced or disappeared altogether, and an economic shift occurred, from semi-nomadic hunting, fishing, and gathering to the securing of furs and their exchange for objects of foreign manufacture, and finally, to increased sedentism made possible by agriculture. The populations became focused on the sites of the missions for much or all of the year. There is a repeated and consistent thread of historic development for almost all of the groups discussed in this overview. By the mid-nineteenth century, adaption to Euroamerican culture was well underway. Conversion to Christianity was widespread and highly successful farming ventures were common. It is apparent that adaptation to what was now a predominantly cultural environment would have been relatively smooth and positive were it not for the moral and economic decimation caused by the continued taking over of the most viable agricultural lands by the Euroamericans in spite of repeated promises of fair treatment which

only resulted in the pushing of the surviving Native American populations onto ever more marginal terrain. The eventual result was the disillusionment, alienation, poverty, and disease that was characteristic of the condition of most groups by the end of the nineteenth century regardless of whether or not they received reservations or had chosen to forcibly resist. The twentieth century is witness to the resiliency of these people and their cultures. It is to be hoped that the resurgence in social and cultural morale and recently apparent economic motivation will not again be aborted by the flexible morality that had characterized many of our society's previous interactions with them.

Less than 200 years have passed since the first Euroamericans entered the study area, but in this short span of time, a large proportion of the land and its resources have been exploited. For the first 50 to 60 years, the Euroamericans' settlement pattern coincided with parts of the aboriginal pattern, although the economic motivations of the former were quite different. The routes of the early explorers tended to follow the major Indian trails because of reliance upon Native American guides. Fur trading posts were established at locations that were thought to be strategic of access to the aboriginal exploitive territories. The high degree of aboriginal nomadism plus the fact that the Native American cultures themselves were changing resulted in a number of unsuccessful choices for fur post locations, but others were relatively productive because their locations coincided with major social gathering places. Examples of the latter are Kettle Falls and the mouth of the Little Spokane River. Later, the establishment of missions followed the same rationale, conditioned somewhat by the missionaries' desire to institute agriculture.

By the mid-nineteenth century, however, economic exploitation of the study area independent of the Native American economy and culture had begun. Gold strikes rapidly spread from the major travel routes into many parts of the region, resulting in the wide distribution of small scale activity sites, many of them probably not now detectable. The major concentration of such activity was undoubtedly in the Wild Horse country and the Clearwater Mountains.

After a brief lull, the American economy burst upon the scene with major impact. Lode mineral strikes and the associated development of a large scale transportation network that included railroads and steamboats resulted in the growth of large settlements, many of which today are the principal cities and towns of the region. With the influx of homesteaders came the agricultural development of Native American lands. The demand for lumber for the mines, towns, and railroads resulted in the rapid growth of the lumber industry before the turn of the century. Logging camps and mills were established deep in the densely-forested mountainous terrain.

Mining, logging, and related commercial activities remain the focus of the modern economy, although by the middle of this century, the trend towards centralization had become apparent. Most small mining and logging camps closed down as their quick returns played out, and the local economy became more strongly connected with national business and industry. An interesting recent development has been the return of many people to the small rural agricultural holdings which had been abandoned in the early part of the twentieth century. With increased prices for many minerals and new uses for others, prospecting and small scale mining in the backwoods areas have also been revived to some extent. The 1960s and 1970s have heralded what appears to be a trend away from centralized exploitation to efficient small scale land and resource use in many parts of the study area.

C U L T U R A L C H R O N O L O G Y S U M M A R Y

- 1805 Lewis and Clark Expedition enters Nez Perce country.
- 1807 North West Company in Kutenai country.
- 1809 David Thompson establishes Kullyspel House on Lake Pend Oreille.
David Thompson establishes Saleesh House in Bitterroot Valley of Montana.
- 1810 Spokane House established (North West Company) and Kullyspel House is abandoned.
John Jacob Astor's Pacific Fur Company arrives by sea at the mouth of the Columbia River.
David Thompson travels length of Columbia River. Trading posts for North West Company established.
Pacific Fur Company builds trading forts at the mouth of the Okanogan River and near Spokane House.
- 1812 General Land Office created.
- 1813 Pacific Fur Company sells to North West Company.
- 1821 Hudson's Bay Company and North West Company merge.
- 1825-
- 1826 Fort Colville built by Hudson's Bay Company at Kettle Falls.
Spokane House abandoned.
- 1830 Unidentified plague among the Coeur d'Alene Indians.
- 1831 Emissaries sent to St. Louis for missionaries by Flathead and Nez Perce Indians.
- 1832 Process was repeated by the Coeur d'Alene Indians until the arrival of the Jesuits.
- 1836 Dr. and Mrs. Whitman, Reverend and Mrs. Spalding arrive at Fort Vancouver.
Spaldings establish mission on Nez Perce country at Lapwai.
Presbyterian missionaries (Spalding and Smith) in residence among the Nez Perce at Kamiah and Lapwai until 1847.
- 1838 Jesuit missionaries arrive in the Northwest.

- 1840 J.J. DeSmet visits Nez Perce Indians.
- 1841-
- 1842 DeSmet travels through Inland Empire.
DeSmet visits Coeur d'Alene Indians and establishes first
Jesuit mission.
- 1844 Construction of settlement near main center of Kalispel Indians.
St. Ignatius Mission construction begins.
- 1846 U.S.-British boundary dispute settled in the Northwest.
- 1847 Father Joseph Joset and Louis Vereruyse build St. Paul's
Mission overlooking Fort Colville.
Measles epidemic among the Palus and massacre of the Whitmans.
- 1848 Mission of the Sacred Heart moved to near Cataldo, Idaho.
Completion of construction of St. Ignatius Mission (Kalispel).
Cayuse War - Palus participated.
Oregon Territory created.
- 1850 Donation Act passed to encourage Oregon settlement.
Epidemic among Coeur d'Alene Indians.
- 1852 Coeur d'Alene Indians completed building of Sacred Heart Mission.
- 1853 Kalispel Indians visited by Suckley of I.I. Stevens railroad survey.
Yakima and Bitterroot Valley gold strikes.
- 1854 St. Ignatius Mission moved to Montana.
- 1855 Walla Walla Council Treaties. Coeur d'Alene and Palus Indians
did not attend.
Territory concessions determined anyway.
Rush for gold in Colville area begins.
- 1856 Treaty negotiations with Lansdale (Kalispel Indians).
- 1858 Steptoe/Wright military expeditions against the Coeur d'Alene and
Palus Indians.
Nez Perce aided U.S. military.
- 1860 Bonners Ferry and Seneacquoteen are Idaho's only settlements.
Each served as a river crossing.
E.D. Pierce discovers gold on Orofino Creek.
Mr. Hoteling discovers gold in Hoodoo Gulch.

- 1861 City of Lewiston and Washington Territory established.
- 1862 Mullan Road completed. Steam navigation along Snake River common with Palus village sites becoming landings.
Homestead Act of 1862 passed.
- 1863 Idaho becomes a Territory.
"Thief treaty" signed by Clearwater Nez Perce bands.
Gold strike in the Wild Horse country of British Columbia.
- 1864 Construction of *Mary Moody* at Seneacquoteen.
- 1865 Catholic mission established by Cataldo at Lapwai.
- 1867 Executive order for a reservation rejected by the Coeur d'Alene Indians.
Priests began moving Coeur d'Alene mission to DeSmet area.
- 1870 Gold discovered in Gold Hill District.
Methodist missionaries among the Nez Perce Indians.
Nez Perce Indians also developed a Native American Presbyterian ministry in the 1870s.
- 1871 Ft. Colville abandoned.
- 1872 Shanks Commission proposed Kalispel Indian Reservation.
- 1873 Executive Order established a Coeur d'Alene Indian Reservation.
Wallowa Indian Reservation established for Nez Perce Joseph's Band.
- 1875 Wallowa Valley re-opened to Euroamerican settlement.
Moscow founded.
- 1877 Nez Perce and Palus ordered to reservations - Nez Perce War.
Jesuit Mission established at DeSmet.
Coeur d'Alene Indians aid Euroamerican settlers.
- 1878 Joseph's band (Nez Perce) and Palus to Oklahoma.
Coeur d'Alene Indians establish Catholic school.
Timber and Stone Act allows homesteaders and miners to purchase small parcels of land for the timber and stone they contain.
Timber and Cutting Act allowed timber cutting from public domain for domestic and mining purposes.
Settlement begins in Julietta area.
Fort Coeur d'Alene (Ft. Sherman) established.

- 1880 Latah County organized by Legislative Act.
Colville established as county seat of Stevens County.
- 1880-
1882 Construction of Northern Pacific Railroad through north Idaho.
- 1881 Northern Pacific arrives in Spokane.
- 1881-
1885 Main gold rush period in the area of Prichard Creek in the
Coeur d'Alene mining region.
- 1884 First homestead claim filed on Kalispel Indian lands.
- 1884-
1885 S. Waters tries for a reservation or at least allotments for
the Kalispel Indians.
Nez Perce and Palus Indians return from Oklahoma to the Northwest.
- 1880s Settlements of Calispel Lake and Tacoma Creek area, Pend Oreille
County.
Lead, silver, zinc mining begins in Pend Oreille County.
Lead, silver, zinc discovered in Metalines.
- 1887 Treaty commission proposes agreement for the Coeur d'Alene
Indians, not ratified by Congress.
Allotment (Dawes') Act passed.
Northwest Indian Commission meets with the Kalispel tribe at
Sandpoint.
Upper Kalispel under Michael go to St. Ignatius - Masselow
insists on staying in Kalispel traditional homeland.
- 1888 Treaty commission agreement for the Coeur d'Alene Indians cedes
three million acres to the government (for 22¢ an acre).
Narrow gauge railroad from Old Mission to Wallace and lines up
Canyon Creek to Wallace and Burke.
- 1889 Town of Kettle Falls platted.
Spokane Falls and Northern Pacific Railroad enters Colville.
- 1890 Idaho becomes a State.
Further small land cessions by the Coeur d'Alene Indians until 1910.
- 1890-
1892 Construction of Great Northern Railroad.

- 1891 The Forest Reserves Act allows President to declare public reservations.
Yellowstone Park Timberland Reserve established.
- Mid
- 1890s Oregon Railway and Navigation Company built a line from Harrison to Wallace and the narrow gauge from the Old Mission is abandoned.
- 1895 Allotment of the Nez Perce Reservation carried out.
Survey of Kalispel lands, census.
- 1896 North half of Colville Indian Reservation opens to mineral entry.
- 1897 President Cleveland proclaims Priest River Forest Reserve, creating for the first time forest lands in northeastern Washington and northern Idaho.
- 1898 South half of Colville Indian Reservation opens to mineral entry.
- 1899 Kootenai Valley Railroad built in Boundary County.
- 1900 Opening of north half of Colville Indian Reservation to homesteading.
Clearwater Timber Company established.
- 1901 Town of Potlatch established.
- 1902 Branches of the Canadian Pacific Railroad and the Great Northern Railroad reach Republic.
- 1903 Potlatch Lumber Company formed.
Kalispel transferred to Ft. Spokane Indian Agency.
- 1905 Administration of forest reserves transferred from Department of Interior to Department of Agriculture.
Bureau of Forestry renamed Forest Service.
- 1906 Forest Homestead Act opens national forest lands with agricultural value to homesteaders.
Northern Pacific Railroad allowed to take alternate lands for those upon which the Kalispel resided.
Spokane International Railroad was built through north Idaho.
Allotment of the Coeur d'Alene Indian Reservation carried out.
Coeur d'Alene National Forest established.
Kaniksu National Forest established.

- 1907 Colville Forest Reserve created.
Congress passes act prohibiting creation of additional forests from public domain within Oregon, Washington, Idaho, Montana, Wyoming, and Colorado, except by special legislation.
Idaho and Washington Railroad (later the Milwaukee) was constructed from Spokane to Newport.
Town of Bovill incorporated.
- 1909 Service on the Milwaukee Railroad begins in Idaho.
Milwaukee Lumber Company begins logging in Marble Creek area.
Coeur d'Alene non-allotted lands opened to homesteading.
Railroad reaches Ione, Washington
- 1910 U.S. Census identified 82 Palus Indians living on various reservations.
Branch of the Spokane International Railroad extended to Bayview.
Railroad completed to Metaline Falls, Washington.
Masselow visits Father Taelman at Gonzaga (Kalispel).
- 1910-
1925 Period of the big lumber companies in north Idaho and northeastern Washington.
- 1911 Inland Portland Cement Company established in Metaline Falls.
Clearwater County created from half of Nez Perce County.
- 1913 Government school for the Kalispel.
- 1914 Kalispel Indian Reservation finally established.
- 1915 Edward Rutledge Timber Company organized.
- 1917 IWW strike among lumbermen in Pacific Northwest.
- 1924 U.S. citizenship granted to Native Americans.
- 1930 Potlatch Lumber Company, Clearwater Timber Company, and Edward Rutledge Timber Company merge and form the firm Potlatch Forests, Inc.
- 1933 Establishment of the Civilian Conservation Corps.
- 1934 The Taylor Grazing Act is passed as a means to administer grazing leasing on public lands.
The Division of Grazing/Grazing Service created.
Indian Reorganization Act.

- 1938 Kalispel Indian Community chartered.
- 1939 Spokane International Railroad branch to Bayview abandoned.
- 1942 CCC liquidated.
- 1946 Bureau of Land Management created with consolidation of General Land Office (1812) and Grazing Service (1934). Indian Claims Commission established.
- 1947 Coeur d'Alene Tribal constitution and council adopted.
- 1948 Nez Perce Tribal constitution and council adopted.
- 1952 BIA Employment Assistance Program begun (continued through 1960s).
- 1953 Termination Resolution passed by Congress.
- 1958 BIA Adult Vocational Program established to coincide with relocation begun by Employment Assistance Program of 1952. Indian Claims Commission offers its opinion in favor of Kalispel.
- 1960 Congress passes Multiple Use-Sustained Yield Act.
- 1960s Development of tribal enterprises and management programs; also land purchasing programs to consolidate holdings and prevent further loss of acreage.
- 1961 Tribal Councils recognized as capable to make business agreements and to deal with federal and state agencies.
- 1963 Restitution monies allotted to Kalispel Indians.
- 1965 Kalispel Indians received restitution monies, tribal wide program begins.
- 1967 New Kalispel Consitution.

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Covering the period of the 1860s to the 1960s, this source traces the history of railroad logging from its beginning to its end. Using a general pictorial history format, the source describes when and how railroads were used in logging. Concentrating on the Pacific Northwest, Washington, Oregon, California, and Idaho are covered as well as Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming, and Montana. A large number of good quality photographs are included showing railroads, operations, locomotives, and camps. An appendix gives listings, by state, of what logging railroads were where and how long they operated in that area.

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Ames, Kenneth M. and James P. Green

1979 *A Holocene geochronology from the lower Clearwater River, central Idaho*. Ms. on file, Idaho Historical Society, Boise.

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Analyzes and outlines positive and negative relationships between all the groups ethnographically present in the Plateau. The author concludes Plateau society was actually a cohesive web that was economic and social that bound certain groups together and aligned certain groups against one another.

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A very brief but well-written work which barely began to cover the available sources on the Spokane.

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Excellent collection of photographs of 1910 fire, log chutes, flumes, steam donkeys, and timbermen at work. It is highly valuable as a visual aid to understanding logging history and the photographs are of good quality, detail, and composition.

Anonymous

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Enormous source covers the history of all of north Idaho from the sixteenth to the nineteenth century. Includes general history by such themes as exploration, mining, Indian wars, and settlement and covers history by county and town. Also includes countless biographies of contributors.

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This is an early and basic source of northeastern Washington history covering exploration, settlement, mining, politics, and education. Stevens and Ferry counties are examined in detail with histories of towns in the county given. Much of the history written after this time uses the information given in this text.

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This history follows the Spokane International from its inception by D.C. Corbin to its operation today.

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Good general source which sums up major events in brief, easily grasped terms. Fairly informative and covers the basic themes of exploration, settlement, education, industry, and Indian wars. Though book covers all of Washington, concentration is placed on western Washington.

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Discusses the practices of logging as they were in 1913. Covers forest resources, preparing logs for transport, land and water transport, logging methods in specific regions with descriptions of flumes, chutes, railroads, tools, methods, and camps. Covers all of the United States, generally noting regional differences where appropriate.

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Carriker, R.

1973 *The Kalispel people*. Indian Tribal Series, Phoenix.

A brief synthesis of Kalispel history. Also includes observations on ethnographic lifeways, but focuses primarily upon the historic period.

Carroll, Robert Wesley

1973 The Civilian Conservation Corps in Washington State 1933-1942. Unpublished M.A. thesis, Department of History, Washington State University, Pullman.

Most of the specific camp discussions are centered on the western part of the state. There are lists, however, with some camps from the project area.

Causton, Rose and White Otter

1954 History and folklore of the Kootenais. Ms. on file, Washington State University, Holland Library Archives, Pullman.

Folk tales, early history, and scattered anthropological observations pertaining to the Bonners Ferry band of lower Kutenai. Of interest are observations on Kutenai-Kalispel conflicts, the results of epidemics, and fur trade era happenings.

Chalfant, Stuart A.

1974 *Aboriginal territory of the Nez Perce Indians*. Garland, New York.

A discussion of information used in the Indian Claims Commission proceedings to determine the territory and distribution of the Nez Percé.

Chamberlain, A.F.

1892 Report on the Kutenai Indians of southeast British Columbia (Vol. II). *British Association for the Advancement of Science 8th report*.

A brief report on the Kutenai with a summary of population estimations, "senses and mental character," social organizations and institutions, kinship terms, and religion based on ethnographic field work conducted in the summer of 1891. The report was conducted for the Canadian government.

Chance, David H.

1967 Archaeological survey of Coulee Dam National Recreation Area, Part 2: spring drawdown of 1967. *Washington State University, Laboratory of Anthropology, Report of Investigations*, 42.

1970 Archaeological survey of Coulee Dam National Recreation Area: spring and summer 1970. *University of Idaho Anthropological Research Manuscript Series 2*.

Detailed presentation of past work in the area with detailed discussion of new sites and additional information on previously recorded sites. Primarily prehistoric sites.

1973 Influences of the Hudson's Bay Company on the native cultures of the Colville District. *Northwest Anthropological Research Notes, Memoir 2*.

Like most surveys, this one did not adequately perceive assemblages. This study needs to be enlarged by the addition of much new information on the subject.

1975 Shwayip Social Networks. Ms. on file with David H. Chance, Seattle.

Studies the exchange of women and the relationships of the chiefs.

Chance, David H. and Jennifer V. Chance

1977 Kettle Falls: 1976 salvage archaeology in Lake Roosevelt.
University of Idaho Anthropological Research Manuscript Series 39.

Report of archaeological investigations of Kettle Falls fishery and Hudson's Bay Company's Fort Colville with photographs of excavations and artifacts.

Chance, David H., Jennifer V. Chance, and John L. Fagan

1977 Kettle Falls: 1972. *University of Idaho Anthropological Research Manuscripts Series 31.*

This was the preliminary outline of the prehistoric sequence for the Kettle Falls area, since then greatly expanded and modified into the most detailed of the Plateau sequences.

Chittendon, H.M., and A.T. Richardson (editors)

1905 *Life, letters, and travels of Father Pierre-Jean DeSmet 1801-1873* (Vols. I and II). Francis P. Harper, New York.

This manuscript details places Father DeSmet visited while in north Idaho and northeastern Washington in the mid-1800s. DeSmet describes people, places, scenery, and routes of travel.

Choquette, W.T.

1981 The role of lithic material studies in Kootenay Region archaeology. *B.C. Studies.*

Three major types of stone utilized within the prehistoric territory of the Kutenai Indians are described in terms of the geologic processes which produced their known distributions. The sources of the materials are described as are some of their technological attributes. Hypotheses are presented concerning the articulation of lithic materials and cultural ecological relationships.

Choquette, Wayne T. and Craig Holstine

1980 A cultural resource overview of the Bonneville Power Administration proposed transmission line from Libby Dam, Montana, to Rathdrum, Idaho. *Washington Archaeological Research Center Project Report 100.*

An overview of the geology; palaeo and modern environments; and culture history of the Pend Oreille and Kootenai drainages, northern Idaho and the Kootenai valley, northwestern Montana. Results of a 10.5 percent random transect sample of the proposed BPA Libby Integration transmission facility are presented, with cultural resource management recommendations.

- 1982 A cultural resource overview of the Bonneville Power Administration proposed Garrison-Spokane transmission line. *Eastern Washington University Reports in History and Archaeology*, Cheney.

An overview of the geology; palaeo and modern environments; and culture history of the Clark Fork, lower Flathead, and Coeur d'Alene drainages, northwestern Montana, northern Idaho, and the upper Spokane River, Washington. A predictive model of prehistoric and historic cultural resource occurrence is used to evaluate a number of proposed alternate transmission line routings.

Clawson, Marion

- 1971 *The Bureau of Land Management*. Praeger, New York.

Covers history of the General Land Office, Grazing Service, and creation of the Bureau of Land Management. Briefly discusses the function of BLM today such as mining and mineral leasing, environmental management, and grazing.

Clayton, Austin B.

- 1934 Copper veins of the Mizpah Mine in the Hoodoo District near Harvard, Idaho. Unpublished B.A. thesis, University of Idaho, Moscow.

Geologic descriptions with historic information of the area based on informants. Discusses ownership and operation of past mining in district.

Cleveland, Gregory, Judith Giniger, John Alan Ross, David H. Stratton, and Glen W. Lindeman

- 1978 *Archaeological, ethnographic, and historical survey of the Colville Indian Reservation*. National Heritage, Pullman.

A brief, general overview of archaeological resources, ethno-history, and history of the Colville Indian Reservation.

Coats, J.H. "Bud"

- 1978 Communications in the national forests of the northern region: a history of telephone and radio. Ms. on file, Regional Communication Officer, Region One, U.S. Forest Service, Missoula.

This brief history was written by a former regional communications officer. Personal comments of Forest Service personnel who worked with early communications equipment have been added. The history spans the time from 1910 to 1977 and is very informative.

Coleman, Louis C. and Leo Rieman

1968 *Captain John Mullan: his life*. Printed privately for Payette Radio Limited, Montreal, Canada.

The authors of this book are from Worley, Idaho. They discuss Mullan's life, building the road - there are a lot of photos of the road in 1959 and various other events along the road; i.e., the fort and the mission.

Collier, Donald, Alfred E. Hudson, and Arlo Ford

1942 Archaeology of the upper Columbia region. *University of Washington Publications in Anthropology* 9(1).

This report presents the results of a survey of the Roosevelt Reservoir. It includes finds from many burials and brief descriptions of other sites. The survey crew found one pithouse and rock art at Kettle Falls. The artifact analysis compares the survey finds with the artifacts from the Dalles.

Colville National Forest

1939, 1940, 1941 History of the Colville National Forest. Ms. on file, Colville National Forest, Colville.

Manuscript covers early history of northeastern Washington and, more importantly, the early history of the Colville Forest. Also has historical sketches and recollections drawn from Forest Service employees. Contains an especially good account of CCC camps on the forest. Reprinted in Giniger and others (1976).

Conners, J.A.

1976 *Quaternary history of northern Idaho and adjacent areas*. Ph.D. dissertation, University of Idaho, University Microfilms, Ann Arbor.

An examination of surficial geology of the northern Idaho Panhandle and parts of northeastern Washington. A synthesis of geological events, mostly concentrating on the Spokane flood, is presented and areas worthy of further investigations are suggested.

Cook, Sherburne F.

1971 The epidemic of 1830-1833 in California and Oregon. In *The Emergent Native Americans*. Deward Walker, ed., Little, Brown, Boston.

This article discusses the depopulation of the lower Columbia by a malaria epidemic which caused a mortality rate of 40-100 percent. The author cites historic references.

Cox, Ross

1957 *The Columbia River*. Edited by Edgar and Jane Steward.
University of Oklahoma Press, Norman.

A reminiscence by a former member of the Pacific Fur and North West companies. Cox seems to be not as careful in judgement as Alexander Ross, whose accounts he parallels.

Crowell, Sandra A. and David O. Asleson

1980 *Up the Swiftwater: a pictorial history of the colorful upper St. Joe River country*. Published by the authors.

Comprehensive history of the St. Joe valley beginning with Native American occupation of the area and covering miners, homesteaders, railroaders, rangers, and lumberjacks. Discusses lives and settlements of these groups in a well-written narrative with an extensive photographic collection.

Curtis, Edward S.

1911 *The North American Indian*, Vol. 8. Plimpton Press, Norwood.

An ethnographic description of the Nez Perce.

Daly, R.A.

1912 *Geology of the North American Cordillera at the forty-ninth parallel, Canada*, Department of Mines, Geological Survey Memoir 38.

Description of bedrock geology of a transect along the forty-ninth parallel of Montana, Idaho, Washington, and British Columbia.

Daubenmire, R.

1943 *Vegetation zonation in the Rocky Mountains*. *Botanical Review* 9(6):325-393.

A detailed discussion of distribution of vegetation in the Rocky Mountains including zone summaries, environmental determinants, and irregularities.

1970 *Steppe vegetation of Washington*. *Washington Agricultural Experiment Station, Technical Bulletin* 62.

Groups steppe vegetation into habitat types and also includes discussions of effects of aboriginal and historic human modification and fire, and ecological aspects pertaining to vegetational groupings.

1975 Floristic plant geography of eastern Washington and northern Idaho. *Journal of Biogeography* 2:1-18.

Summarizes the vegetational history of this part of the Pacific Northwest from the Tertiary to the present and discusses some aspects of vegetation migration.

Daubenmire, R. and J.B. Daubenmire

1968 Forest vegetation of eastern Washington and northern Idaho. *Washington Agricultural Experiment Station, Technical Bulletin* 60.

Groups forest vegetation of eastern Washington and northern Idaho into habitat types. Also discusses several ecological concepts including taxonomy, relation between undergrowth and overstory, competition, species diversity, etc.

Daugherty, Richard D.

1962 Archaeological research in the Boundary Dam Reservoir area: final report. Washington State University, *Report of Investigations* 19.

This report deals with the archaeological survey conducted in the Boundary Dam reservoir in Pend Oreille County, Washington. No new sites were recorded.

Dease, John W.

1829 Dease to John McLoughlin, Fort Colville, 15 August 1829. Ms. on file, Hudson's Bay Company Archives D.4/123, Winnipeg.

In this letter to McLoughlin, Dease mentions a battle between several Columbia Plateau Indian groups.

Delisio, Mario

1974 An archaeological survey of U.S. Army Corps of Engineer lands on Lake Pend Oreille and Pend Oreille River. Ms. on file, Archive of Pacific Northwest Archaeology. University of Idaho, Moscow.

Discusses sites identified along the Pend Oreille River as part of a survey for the Corps of Engineers.

Denton, George H. and Stephen C. Porter

1970 Neoglaciation. *Scientific American* 222:100-110.

Summarizes evidence indicating several major periods of glacier advance throughout the world during the last 6,000 years.

Dinger, Derby

- 1979 Historical sketches of Pend Oreille County, Washington (1930).
In *Historical Sketches of Pend Oreille County*, edited by C. Howe,
Pend Oreille County Historical Society, Newport.

First written in 1930, this article compiles a history of Pend Oreille County.

Downs, Art

- 1971 *Paddlewheels on the frontier*, Volume 2. Foremost, Surrey, B.C.

This publication discusses in two volumes the stern and sidewheeler which plied the waters of British Columbia and parts of the project area.

Dozier, Jack

- 1961 History of the Coeur d'Alene Indians to 1900. Unpublished M.A. thesis, Department of History, University of Idaho, Moscow.

The author of this thesis draws his information primarily from government documents and the Father Joset and Coeur d'Alene Mission papers.

- 1962 The Coeur d'Alene land rush, 1909-10. *Pacific Northwest Quarterly*.

This article briefly explains the reasons and laws behind opening the Coeur d'Alene Indian Reservation to Euroamerican settlement. It also discusses the process by which the lottery system was handled.

Drury, Clifford M.

- 1940 *Elkanah and Mary Walker, pioneers among the Spokanes*. Caxton, Caldwell.

An uncritical account of these missionaries.

- 1976 *Nine years with the Spokane Indians: the diary, 1838-48, of Elkanah Walker*. A.H. Clark, Glendale.

The most extensive diary from the Plateau for the 1830s and 1840s.

Dubofsky, Melvin

- 1969 *We shall be all: a history of the Industrial Workers of the World*. Quadrangle Books, Chicago.

Source discusses the entire history of the IWW. The entire United States is included with good, concise history of IWW activity in the Northwest covered in several sections. University of Idaho Library.

Downs, Art

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Dubofsky, Melvin

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Dunbar, Seymour (ed.)

1927 *The journals and letters of Major John Owen, pioneer of the Northwest, 1850-1871.* Edward Eberstadt, New York.

Between 1851-1864 Owen traveled approximately 2,300 miles: Fort Owen to the Dalles, Lolo Trail, Nez Perce Trail, Hells Gate, Fort Benton, Fort Hall, Emigrant Trail, Fort Colville, and Spokane. In 1850 he became established as a fur trader in Bitterroot Valley having purchased St. Mary's Mission. He was between Hudson's Bay Company and gold mining in Pacific Northwest history.

Dunham, Harold H.

1970 *Government handout: a study in the administration of the public lands 1875-1891.* Da Capo Press, New York.

Documentation of early legislation and organization of public lands.

Dunwoody, Charles G. and E. Ralph Edgerton

1937 *Whitepine blister rust: the control problem in the west.*

Jointly published by the Department of Conservation, California State Chamber of Commerce, and the Timber Products Bureau, Spokane Chamber of Commerce.

This book is an effort by the private timber concerns to promote blister rust control programs. It has good color tinted photographs of the effects of blister rust and the blister rust control program workers.

Durham, N.W.

1912 *History of the city of Spokane and Spokane country, Washington.* S.J. Lewis, Spokane.

This book begins with first explorations by Euroamericans in the Pacific Northwest. It moves into politics, missions, fur traders, gold rushes, and Indian wars to about 1910. It concentrates largely on Spokane but does give a good history of surrounding areas from Moscow-Pullman up into British Columbia and from the Coeur d'Alene area to Stevens County. It also contains a chapter on D.C. Corbon.

Elmendorf, W.

1965 Linguistic and geographic relations in the northern Plateau area. *Southwestern Journal of Anthropology* 21(1):63-78.

Outlines linguistic relationships among the various subdivisions of the Salish language. Using measures of linguistic similarity and glottochronology, reconstructs the episodes of divergence of the ethnographically known dialectic groupings. A very useful hypothetical framework potentially testable by archaeological research.

1935 Lakes ethnographic notes made in 1935 and 1936. Ms. on file, W. Elmendorf.

Rare information, unique in some respects, mostly from a single informant.

Elsensohn, Sister M. Alfreda

1970 *Idaho Chinese lore*. Caxton, Caldwell, Idaho.

Covers the history of Chinese in Idaho mining. Briefly mentions some of the exetu acts. Taxes against Chinese; their work for Great Northern and Northern Pacific in northern Idaho and work in Clearwater area.

Faick, John N.

1937 Geology and ore deposits of the Gold Hill district.

Unpublished M.A. thesis, Department of Geology, University of Idaho, Moscow.

Summary of geology, history, stratigraphy, and mining operations in the Gold Hill district of Latah County. Brief description of mines and prospects including what was there and how it was removed.

Feathers, J.J.

1971 *These are the Nez Perce nation*. Lewis-Clark Normal Press, Lewiston.

A short tribal history containing contemporary economic data. Much of this information is the result of a survey of Nez Perce opinion.

Fee, Elizabeth Tamplin

1968 *The 1960 strike in the Coeur d'Alenes: an examination of alleged Communist influence*. Unpublished M.A. thesis, Department of History, University of Idaho, Moscow.

Good facts - original research into newspapers, interviewed people - but the presentation is choppy. Gives history of mining in area and labor organization.

Femreite, Thomas

1979 The logging camps of Potlatch. *Latah County Historical Society* 3(8).

Describes early Potlatch camps giving dates established and dates terminated, names of camp foremen, general locations, and whether camps used horse logging, steam donkeys, tractors, and railroads.

Fickes, Clyde P.

1973 *Recollections*. United States Department of Agriculture, Missoula, Montana.

Daily life and schedule of a forest ranger from 1907 to 1947. Describes station construction, camp life, supplies, and daily events. Experiences of author took place mainly in Montana. Though events do not occur in study area, these recollections of a long-time forest ranger are enlightening and informative, giving a great deal of information on the camps, lookouts, and life styles of Forest Service personnel over the years.

Fickes, Clyde F., and W. Ellis Groben

1945 *Building with logs*. United States Department of Agriculture, Missoula, Montana.

Publication put out by the Forest Service on log cabin and furniture construction. This was undoubtedly used as a guide for camp and lookout structures.

Fielder, George F., Jr.

1979 Palus material technology: a technical analysis of the Palus burial assemblage. Unpublished M.A. thesis, Department of Sociology/Anthropology, University of Idaho, Moscow.

This thesis contains a very brief ethnographic discussion. It also discusses accounts of contact with Euroamericans as recorded in various journals. Material is limited to postcontact burials.

Fielder, George F., Jr., and Roderick Sprague

1974 Test excavations at the Coeur d'Alene Mission of the Sacred Heart, Cataldo, Idaho, 1973. *University of Idaho Anthropological Research Manuscript Series* 13.

This report discusses the University's test excavations at the Mission in 1973 which were made as a preliminary examination prior to the field school in 1974.

Franc, Gerald G.

1970 *The Beaver Creek flume*. Ms. on file, Clearwater National Forest, Orofino.

Excellent description of log flumes based on interviews with retired Forest Service and Potlatch Forest employees. The how and why of construction are discussed and illustrations and photographs are given for demonstration. Discusses the building and using of a log flume. The flume under discussion is the Beaver Creek flume built in 1930 and used until 1944 on a tributary of the North Fork of the Clearwater.

Frank, Bernard

1955 *Our national forests*. University of Oklahoma, Norman.

Discusses the creation of national forest, purposes and management of forests, and their organization and operation. Includes the entire United States from east to west coast. Lists forests by states briefly describing their size and resources. Though somewhat outdated, the book gives an interesting perspective of thoughts on the national forests in 1955.

Fredlund, Dale

1977 *Alpine archaeology in the Bitterroot Mountains of Montana*. Ms. on file, Department of Anthropology, University of Montana, Missoula.

This report documents sites in the Bitterroot Mountain areas of Montana and into Idaho from surveys.

French, Hiram T.

1914 *History of Idaho: a narrative account of its historical progress, its people, and its interests*. Lewis, New York.

General discussion of major events in Idaho history including exploration, religious history, gold rushes, government, topography, economic history, and transportation. Discusses counties individually. Very good general source, though bias is toward south Idaho.

Fryxell, R.

1965 Mazama and Glacier Peak volcanic ash layers: relative ages.
Science 147:1288-1290.

This article presents dates, distribution, and characteristics of Mazama and Glacier Peak ash as they were known at the time.

Fulkerson, Frank B. and Gary A. Kingston

1958 Mine production of gold, silver, copper, lead, and zinc in Pend Oreille and Stevens counties, Washington, 1902-1956.
United States Department of the Interior, Bureau of Mines. Information Circular 1872.

This article offers a brief history of mining in the region and a yearly chronology of mining activities in Pend Oreille and Stevens counties. A list of mines by district and county is also included.

Fuller, George W.

1931 *A history of the Pacific Northwest*. Alfred A. Knopf, New York.

Detailed history of the Pacific Northwest with special emphasis on the Willamette Valley and the Inland Empire. Covers explorers, fur traders, missionaries, settlers, mining, Indian wars, political organization, and territorial disputes. This is an extremely detailed account, seemingly covering everything briefly.

Fulton, Leonard A.

1968 Spawning areas and abundance of chinook salmon (*Oncorhynchus tshawytscha*) in the Columbia River basin - past and present.
U.S. Fish and Wildlife Service, Special Scientific Report: Fisheries 571.

Presentation of contemporary and predam data pertaining to populations, distribution, and spawning locales of chinook salmon.

1970 Spawning areas and abundance of steelhead trout, and coho, sockeye, and chum salmon in the Columbia River basin - past and present. *U.S. National Marine Fisheries Service Special Scientific Report: Fisheries* 618.

Presentation of contemporary and predam data pertaining to population, distribution, and spawning locales of steelhead, trout and coho, sockeye, and chum salmon in the Columbia River basin.

Galea, John

1975 *A history of the Palouse ranger district*. Ms. on file, Latah County Library, Moscow.

History covers 1906 to 1974. Includes administrative history, personnel, district history and improvements as well as resources of the district. A good example of Forest Service history within districts.

Giniger, Judith, John Alan Ross, David H. Stratton, Glen W. Lindeman
1976 *Cultural resources inventory of the Colville National Forest*.
Washington Archaeological Research Center Project Reports 32.

History of the Colville Forest discussing discovery, land use, history of northeastern Washington, and cultural resources reported to 1976. Includes 1939-1941 history of forest written by forest personnel and on file in Colville.

Glover, Richard, (editor)

1962 *David Thompson's narrative, 1784-1812*. Champlain Society, Toronto.

A reminiscence by the first explorer of much of our area, based, sometimes carelessly, on journals. However, much in the narrative cannot be found in the journals.

Graham, Tom

1928-1929 *Stevens County fifty years ago*. Ms. on file, Colville Public Library, Colville, Washington.

Source is a collection of articles written by Graham for the *Colville-Examiner* in 1928-1929. Mainly concerned with settlement of the Colville valley with some accounts of everyday life. Detailed coverage of who came to the valley and where they settled.

Haines, Francis

1938 *The northward spread of horses among the Plains Indians*.
American Anthropologist New Series, 3, pp. 429-437.

A summary of historic information pertaining to horses among Native North Americans. Haines concludes that the horse reached the present study area in the early eighteenth century via the Shoshone.

Hammes, JoJane

1962 *Living 1906-1908*. Western Historical, St. Maries, Idaho

A brief narrative based on random, but interesting, clippings from the *St. Maries Gazette*. It covers homesteaders, local life, coming of the railroad, loggers in the area, and steamships.

Hammes, Robert M. and E. Mark Justice

1962 *The way it was*. Western Historical, St. Maries, Idaho.

A collection of photographs giving an idea of the local history of St. Maries. Photographs of homesteaders, loggers, steamers, in the St. Maries and St. Joe valleys.

Hansen, Chris

1972 *Scattered settlers: Resettlement Administration and Forest Service. The Big Smoke*, 11-22. Pend Oreille County, Washington Historical Society.

Mr. Hansen was a chief timber cruiser and land valuator for the Resettlement Administration in Stevens and Pend Oreille counties, Washington. In this article, he relates a brief history of the organization, its duties, some problems, and a number of the people who were involved with it.

Hawley, James H.

1901 *History of Idaho* (Vol. I). S.J. Clarke, Chicago.

Major themes of Idaho history such as explorers, and exploration, fur traders, overland trails, mining and manufacturing, and timber are covered in this book. Other topics such as Idaho in the Spanish-American War, and health and pleasure reports are included. County, city, and town histories are also included.

Heron, Francis and William Kittson

1831 *Cheif Traders Heron's journal of occurrences at Fort Colville*, copies by William Kittson (12 April 1830 to 13 April 1831).

Ms. on file, Hudson's Bay Company Archives B, 45/a/1, Winnipeg.

A daily journal of Fort Colville. Entries are rather brief, yet the journal has data that are unduplicated anywhere.

Hewes, Gordon W.

1947 Aboriginal use of fishing resources in northwestern North America. Unpublished PhD. dissertation, Department of Anthropology, University of California, Berkeley.

This is a comprehensive study of Plateau salmon fishing.

Hewitt, R.H.

1863 *Notes by the way*. Washington Standard, Olumpia, Washington, A 1955 reprint by Frank McCoffrey, Seattle.

Hewitt discusses his journey west and as he does he mentions the Mullan Road.

Hibbard, Benjamin Horace

1939 *A history of the public land policies*. Peter Smith, New York.

Good descriptions of laws and acts with discussions of their purposes and consequences. Covers land policies, legislation grants, homestead acts, timber acts, desert land acts, grazing on public lands, and management of mineral lands

Hidy, Ralph W., Frank Ernest Hill, and Allan Nevins

1963 *Timber and men: the Weyerhaeuser story*. MacMillan, New York.

The growth of Weyerhaeuser is discussed from Wisconsin to the Northwest in this book. There are two chapters on the growth of the lumber industry in Idaho with reference to Potlatch Timber and Clearwater Timber Company, as well as other north and south Idaho companies. Detailed accounts cover the growth of the timber industry, federal legislation, sawmills, and towns involved.

Hobson, George C. (editor)

1940 *Gems of thought and history of Shoshone County*. Kellogg Evening News Press, Kellogg, Idaho.

This book discusses various aspects of Shoshone County from the 1840s to 1940. Most of the text concentrates on the pre-1910 period. Interesting historical information focuses mainly on mining history. This book also has a section on the Molly B'Dam story.

Hoffman, Julian F.

1973 *A dictionary of stream names of the St. Joe National Forest.*
Idaho Bureau of Mines, Moscow, Idaho.

Information gathered from patent records, survey maps, and informant gives origin of names of streams in the St. Joe. Gives name, location, tributary information, county, and, where possible, the origin of names.

Holstine, Craig Ellsworth

1978 *A history of the Colville National Forest.* Unpublished
M.A. thesis, Washington State University, Pullman.

Well-written, informative history of northeastern Washington and the Colville National Forest. Includes exploration, fur trade, mining, logging, and the history of the Forest Service. With much detail it covers the creation, management, and administration of the Colville Forest.

Houghton, Gilbert W.

1972 *Return to the Kaniksu. The Big Smoke*, 25-33. Pend Oreille
County, Washington Historical Society.

The author discusses blister rust and reforestation in the Kaniksu National Forest during the 1930s and 1940s.

Hudson, Lorelea

1975 *An archaeological overview of the St. Maries Planning Zone, Idaho Panhandle National Forests.* *University of Idaho Anthropological Research Manuscript Series* 19.

Report is a result of literature review and informant interviews. Frequency and location of potential sites are given.

1980 *Archaeological investigation for the Clarkia and Calder sewage collection and treatment systems.* Ms. on file, Archive of Pacific Northwest Archaeology, Moscow.

Archaeological survey and testing in Clarkia and Calder area. No cultural resources noted.

Hudson, Lorelea, Thomas Sandberg and Tony MacLeod

1979 *A final report of archaeological (cultural resource) surveys for the timber sale program on the Idaho Panhandle National Forests.* Cultural Resource Consultants, *Cultural Resource Management Reports* 7.

Report on cultural resource surveys of eight timber sales and land exchanges for the Forest.

Hudson, Lorelea, Wayne Choquette, Bruce Cochrane, and A.R. MacLeod
1980 Archaeological test excavations at 10BR94. Pend Oreille River Valley, Northern Idaho. Cultural Resource Consultants, *Cultural Resource Managment Report 9*.

Presents the results of an archaeological testing program on the Pend Oreille River about one mile upriver from the mouth of the Priest River. Stratigraphy (both cultural and natural) and artifacts are described and synthesized within the framework of an hypothetical regional culture history. Preservation and management considerations are discussed.

Hudson, Thomas J.

1975 An overview of archaeological and historical resources on Clearwater National Forest in northern Idaho. Ms. on file, Clearwater National Forest, Orofino.

Overview is an inventory of historic sites and their probable locations.

Hult, Ruby E.

1964 *Steamboats in the timber*. Binford and Morts, Portland.

Discusses steamboat history on waters of the Inland Empire.

Hunting, Marshall T.

1955 *Gold in Washington*. Division of Mines and Geology Bulletin 42.

Though mainly a source for locations of mines in the 1950s, this reference has some history and techniques of mining described. Maps of placers and lodes, names of owners of mines, and dates of their operations are given.

Hupp, Erle

1975 Untitled. Ms. on file, Erle Hupp, Newport, Washington.

In this manuscript Erle Hupp explains his involvement with the Resettlement Administration in Stevens and Pend Oreille counties, Washington. This manuscript is presented in Appendix D, Volume 2 of this report.

Hutchison, Daniel J.

1980 Preliminary report for the Skitswish monuments on St. Joe Baldy, 10BW2. Ms. on file, Coeur d'Alene District Office, Bureau of Land Management.

Hutchison discusses monuments on the Coeur d'Alene-St. Joe divide with some information from Native Americans.

Hutchison, S. Blair

1938a Century of lumbering in northern Idaho, part II. *The Timberman*, September, pp. 14,15,28.

A good brief history and economic discussion of the first wood products industry from 1900 to the mid-1930s.

1938b Century of lumbering in northern Idaho, part III. *The Timberman*, October, pp. 34,36,38,39.

A continuation of the above article.

Idaho Bureau of Mines and Geology

1961 Idaho's mining industry: the first hundred years. *Idaho Bureau of Mines and Geology Bulletin* 18.

Discusses old and new mining methods and areas in Idaho's mining industry. Very general, except for the Pierce and Coeur d'Alene mines. History chapter written by Idaho historian, Merle Wells.

Idaho Historical Society

1962 Idaho Historical Society reference series, 4,99,160,110,65, 5,364, Boise, Idaho.

Series of publications, one to two pages in length, which briefly discuss various aspects of mining in Idaho. These cover placer mining, major mining areas, Idaho's income from mining, and Chinese miners.

Ise, John

1920 *The United States forest policy*. Yale University Press, New Haven.

Contains laws and acts affecting timber lands and forest service policy. Though somewhat difficult to wade through, it does cover all laws and legislation at all related to forest service policy.

Johansen, Dorothy O.

1967 *Empire of the Columbia*. Harper and Row, New York.

A good overall history of the Pacific Northwest.

Jorgensen, Joseph G.

1969 *Salish language and culture*. Indiana University, Bloomington.

A rather wooden statistical study that nevertheless presents useful estimates of affinities.

Kane, Paul

1925 *Wanderings of an artist*. The Radisson Society of Canada, Toronto.

A reminiscence, written like a diary.

Kennedy, Alexander

1823 Spokane House Report 1822-1823. Ms. on file, Hudson's Bay Company Archives B. 208/e/1, Winnipeg.

A brief report on the tribes and strategy of the Spokan District, precursor to the Colville District.

Kingston, C.S. (editor)

1851 Colville valley in the 1860s. *Walla Walla Statesman*, Walla Walla.

This is a manuscript compiled by C.S. Kingston of 1861-1869 accounts published in the *Walla Walla Statesman* of news on events in the Colville valley. The accounts show the growth of the area through mining and farming. There are references to the opening of mines, the crops grown in the valley, and references to Chinese miners. Good source for first-hand, primary material.

Knudson, Ruthann

1976 Prehistoric human exploitation of high elevation lithic resources. *Abstracts of the Fourth Biennial Meeting*, American Quaternary Association, Tempe.

Discussion of high elevation quarries including Harvey Mountain, Idaho, and Top of the World, British Columbia.

Knudson, Ruthann and Darby Stapp

1977 Avery water and sewer district EPA facility plan. Ms. on file, University of Idaho Laboratory of Anthropology, Moscow.

Results of reconnaissance of projected lagoon site at Avery.

Knudson, Ruthann and Duane Marti

1978 Cultural resources reconnaissance and survey, Hayden Lake waste-water facilities phase I, spring 1977. *University of Idaho Anthropological Research Manuscript Series 52*.

Results and recommendations of an archaeological survey of a waste-water facility.

Knudson, Ruthann, Thomas Dechert, Karl Gurcke, and Karen Conrad.

1979 Archaeological test investigations of the Riley Creek Recreation Area, Pend Oreille River Valley, northern Idaho. *University of Idaho Anthropological Research Manuscript Series 52.*

Methods, results, and recommendations for the Riley Creek site from a test excavation in 1979 by the University of Idaho.

Koch, Elers

1915 *When the mountains roared: stories of the 1910 Fire.* Ms. on file, Archive of Pacific Northwest Archaeology, Moscow.

Personal accounts of the fire of 1910. General discussion of damage, salvage of lumber, and aftereffects of fire.

Labbe, John J. and Vernon Goe

1961 *Railroads in the woods.* Howell-North, Berkeley.

Pictorial history book with some narrative on the growth of railroad logging in the Pacific Northwest.

Lee, Shirley W.

1967 A survey of acculturation in the intermontane area of the United States. *Occasional paper of the Idaho State University Museum 19*, Pocatello.

This paper discusses acculturation success, stability, and failure by 40 different cultural groups and is examined in relationship to kinship pattern and social structure.

Leiberg, John B.

1893 Petrographs at Lake Pend Oreille, Idaho. *Science XXII*: 555:156.

Leiberg discusses the pictographs on the lake while surveying the forest resources of the area.

1897 The Priest River Forest Reserve. *United States Geological Survey 19th Annual Report*, pp. 217-252.

This is an assessment of forest resources in this north Idaho area. The author especially discusses fire damage and potential in the area.

Lerman, Norman

1954 Okanogan ethnographic notes made in 1952-1954. Ms. on file, Melville Jacobs Collection, University of Washington Libraries.

Unorganized notes, valuable partly because historical myths of the Okanogans are presented more fully than in many sources.

Lindburg, D.G.

1962 Social organization of the Kutenai. Unpublished M.A. thesis, Department of Anthropology, University of Chicago.

A detailed investigation of Kutenai social organization and kinship. Origin, range, band histories, religion, and the life cycle are also briefly discussed.

Livingston-Little, D.E.

1965 *An economic history of north Idaho, 1800-1900*. Lorrin L. and Carroll Spear Morrison, Los Angeles.

Begins with fur trade and Indians, missions and Indians, gold discovery, agriculture development, transportation levels (mainly railroad) discovery, and development of Coeur d'Alene mines.

Louie, Martin, Randy Bouchard, and Dorothy I.D. Kennedy

1975 *Utilization of fish by the Colville Okanogan Indian people*. British Columbia Indian Language Project, Victoria.

A technical treatise on the fishing technology and ethnozoology of the Colville. Considered by the authors to be in need of revision on technical points.

Loutzenhiser, F.H. and J.R. (editors)

1930-1938 *Told by the pioneers: reminiscences of pioneer life in Washington*. 3 vols. on file, Colville Public Library, Colville, Washington.

Three volumes of recollections about pioneers in Washington. Source is divided by informants names and county discussed. About a dozen descriptions deal with Ferry or Stevens counties. Source is limited in usefulness, but can give details of daily life near the end of the nineteenth century.

Lucia, Ellis

1975 *The big woods: logging and lumbering from bull trams to helicopters in the Pacific Northwest*. Doubleday, Garden City, New York.

General storylike account of logging in the Pacific Northwest. Mainly focuses on Oregon, but most of the information applies to all areas of logging in the Northwest. Discusses logging methods, loggers lives, major fire (Tillamook Burn), use of bulls, steam donkeys, trains, and tractors in the woods.

Luther, Joseph

1980 *Republic historic mining district 1895-1905*. Department of Urban and Regional Planning, Eastern Washington University, Cheney.

Using secondary sources and some newspaper material, this source describes geologic history, mining sites, lifestyle, growth of Republic, architecture and house form, culture, and transportation. Source is concerned mainly with town of Republic and surrounding mining area. Mentions and lists mines nearby.

Lyman, R. Lee

1977 Cultural resource reconnaissance on selected Bureau of Land Management Lands, eastern Washington. Ms. on file, Washington Archaeological Research Center, Pullman.

Small number of sites located in Stevens and Ferry counties, representing the majority of sites recorded outside of Forest Service land and on file.

Mack, R.N., N.W. Rutter, and S. Valastro

1978 Late Quarternary pollen record from the Sanpoil River valley, Washington. *Canadian Journal of Botany* 56:1642-1650.

Presents the results of a palynological analysis of a core from the Sanpoil River valley; four pollen zones are defined spanning the last 10,000 years.

Mack, R.N., N.W. Rutter, S. Valastro, and V.M. Bryant, Jr.

1978 Late Quarternary vegetation history at Waits Lake, Colville River valley, Washington, *Botanical Gazette*, 139(4):499-506. Presents the results of palynological analysis of a core from the Colville River valley; four pollen zones are defined spanning the last 12,500 + years.

Mack, R.N., N.W. Rutter, V.M. Bryant, Jr., and S. Valastro

1978a Late Quarternary pollen record from Big Meadow, Pend Oreille County, Washington. *Ecology*, 59(5):956-966.

Presents the results of palynological analysis of a core from the Pend Oreille valley; five pollen zones are defined spanning the last 12,500 years.

1978b Reexamination of postglacial vegetation history in northern Idaho, Hager Pond, Bonner County, *Quarternary Research*, 10: 241-255.

Presents the results of palynological analysis of a core from the Priest River valley; five pollen zones are defined spanning the last 9,500 + years.

Madden, Richard B.

1975 "Tree farmers and wood converters: the story of Potlatch Corporation" Paper presented at meeting of the NewComen Society in North America, Portland.

Paper gives history of the Potlatch Lumber Company. Author at time of presentation was president and chief executive officer of Potlatch Corporation.

Mallory, O.L.

1961 An archaeological survey of Pacific Gas Transmission Company's Alberta to California pipeline system: MP 108.0 to MP 722.0. *Washington State University Laboratory of Anthropology, Report of Investigations* 12.

This report details the survey and results of this pipeline through northern Idaho.

Manring, B.F.

1912 *The conquest of the Coeur d'Alenes, Spokanes, and Palouses*. Inland, Spokane.

Description of the 1858 conflicts between the U.S. Army led by Colonels Steptoe and Wright and the Spokane, Coeur d'Alene, and Palus, based on statements of the Euroamerican participants (soldiers).

Marshall, Alan G.

- 1977 Nez Perce social groups: an ecological interpretation.
Unpublished Ph.D. dissertation, Department of Anthropology,
Washington State University, Pullman.

This thesis deals with group structure from the most basic family level to organization of villages and bands in terms of resource acquisition and distribution.

- 1978 Social adaptations in the Nez Perce seasonal round.
Paper presented at the 31st Northwest Anthropological Conference, Pullman.

Ethnographic discussion of ecological subsistence search effects on determining social structure. Discusses and disagrees somewhat with Steward's concept of stewardship of resources. Also discusses reality of small social units e.g., families and individuals and their relationships in terms of access to resources.

Marti, Duane

- 1976a An archaeological reconnaissance of the Priest Wild and Scenic River Study Area, Idaho Panhandle National Forests.
University of Idaho Anthropological Research Manuscript Series 24.

Results and recommendations for Wild and River designation based on an archaeological survey of the Priest River.

- 1976b An archaeological reconnaissance of the Moyie Wild and Scenic River Study Area, Idaho Panhandle National Forests.
University of Idaho Anthropological Research Manuscript Series 23.

Results and recommendations for Wild and Scenic River designation based on an archaeological survey of the Moyie River.

Martin, Albert L. and John P. Thompson

- 1965 Mineral examination for city of Seattle, Department of Lighting, involving mineral classification and mining claim validity. Ms. on file, Bureau of Land Management, Spokane.

A report on mineral claims in the proposed Boundary Dam reservoir. The text also includes information on the history and trails of the areas in addition to mining activity.

Mayo, Roy F.

1975 *Gold and strychnine*. Privately printed.

Source is concerned primarily with Chinese miners in the Gold Hill district of Latah County. Gives stories and accounts of Chinese occupation and their difficulties with Euroamerican people in the area.

McDonald, Archibald

1841 McDonald to ladies and gentlemen of Chimikain, Colville, Tuesday morning. Ms. on file, Yale University Archives, New Haven.

In this manuscript McDonald discusses various aspects of Native American life in the Kettle Falls area.

McDonald, Duncan

1927 Testimony of Duncan McDonald, 22 September 1927, Spokane City. Ms. on file, National Archives R.G. 75;2295, Washington.

A discussion of the Colville Indians.

McDonald, Finan and James Birnie

1823 Spokane District Journal (15 April 1822 to 20 April 1823). Ms. on file, Hudson's Bay Company Archives B. 208/a/1, Winnipeg.

A daily journal that shows both of these men to have been more literate and perceptive than usually credited.

McKay, William C.

1871 Draft report of William C. McKay on the Snake prisoners of war. Ms. on file, W.C. McKay Papers, Umatilla County Library, Pendleton.

In this report MacKay mentions, among other things, the presence of Spokane Indians in the Cascade Mountains.

Mehring, P.J. Jr., S.F. Arno, and K.L. Petersen

1977 Postglacial history of Lost Trail Pass Bog, Bitterroot Mountain, Montana. *Arctic and Alpine Research* 9(4):345-368.

Presents the results of palynological analysis of a core from near Lost Trail Pass at the south end of the Bitterroot Mountains; seven pollen zones are defined spanning the last 12,000+ years.

Merk, Frederick (editor)

1931 *Fur trade and empire: George Simpson's Journal*. Harvard University Press, Cambridge.

This journal is of Simpson's first trip to the Pacific Northwest, during which he completely reorganized the fur trade.

Miller, Donald C.

1977 *Ghost towns of Washington and Oregon*. Pruett, Boulder, Colorado.

Number of photographs and brief accounts of towns and mining communities. Those in Ferry and Stevens counties which are discussed include: Laurier, Orient, Northport, Bossburg, Marcus, Bluecreek, Daisy, Republic, and Sheridan.

Miller, John B.

1936 Geology and ore deposits of part of the Ruby Creek Mining District, Idaho. Unpublished B.A. thesis, Department of Geology, University of Idaho, Moscow.

Geologic survey of deposits in Ruby Creek Mining District which includes the history of the area and how mining was carried out.

1972 *The trees grew tall*. The News Review, Moscow, Idaho.

Excellent local history of area surrounding Bovill, Idaho. Much of author's material has come from personal experiences and local informants. The major historical events of mining, settlement, and logging are discussed in detail. The growth of mining in Latah County and the beginnings of logging activities and their relation to towns are discussed.

Miller, Tom O.

1953 Four burials from the Coeur d'Alene region, Idaho. *American Antiquity*, 18:8:389-390.

A discussion of burials found on the North Idaho College campus, at Rose Lake, at Ross Point near Post Falls, and near Medimont close to Cave Lake. The burials appear to range in time from the late prehistoric to the historic.

1959 Archaeological survey of Kootenai County northern Idaho. *Tebiwa*, 2(2):38-51.

A summary of archaeological data from Miller's own survey work conducted during the 1950s. He describes 38 sites which are classified as village, burials, and campsites.

Mooney, Howard L.

1976 *The first 20 years: turn of the century life like it was along the border.* Statesman-Examiner, Colville, Washington.

Colorful local history written by a newspaper man about the early settlement of northeastern Washington, especially Okanogan County.

Morgan, L.R.

1977 Linguistic evidence for Kootenay prehistory: a preliminary report. Ms. on file, Libby Dam Visitors' Center, Montana.

Briefly discusses some aspects of the relationships between the Kootenay language and neighboring languages, particularly Salishan.

Mullan, John

1863 *Report on the construction of a military road from Fort Walla Walla to Fort Benton.* Senate, 37th Congress, 32d Session, Executive Document 43.

This report provides a documentation of the Mullan Road construction and it includes an excellent map of the route.

Norlen, Arthur

1976 *The vanishing immigrants.* Vantage Press, New York.

General north Idaho semi-autobiographical book - discusses logging in north Idaho (St. Joe Forest), Humbird Mill in Sandpoint, log drives on the Priest River, mining in the Coeur d'Alene region (Morning Mine and Bunker Hill), moon-shining in the Sandpoint area, forest fires, reasons for Scandanavian immigration to the U.S., and reasons why these people returned. The time period covered is largely in the 1920s.

Northern Idaho News

1972 *Northern Idaho News industrial souvenir edition.* Originally published in 1905. Bonner County Historical Society, Sandpoint.

The re-issue of this 1905 newspaper is a promotional-type publication on primarily Bonner County. It discusses mining, agriculture, settlement, business, and politics.

Ogden, Michael

1858 Ogden to George Blenkinsop, Fort Colville, 1 September 1858.
Ms. on file, Hudson's Bay Company Archives A. 11/71/893, Winnipeg.

A letter discussing conditions at Fort Colville.

Ojala, Gary L.

1972 *The fabulous Coeur d'Alene mining district*. Privately printed, Cataldo, Idaho.

Discusses quartz and silver, lead, and zinc mining from early discoveries to present day (1970). Explains techniques of exploration and placer mining and quartz and hard rock mining. Good illustrations in techniques and a list of mining terms.

Paul, Rodman Wilson

1963 *Mining frontiers of the far West 1848-1880*. Holt, Rinehart, and Wilson, New York.

Great book, mainly discusses gold rush of California - Comstock lode in Nevada, mining techniques, mining in northwest, southwest, Colorado, Utah, Montana. Routes of transports, economics in mining and a basic history of mining in the west are included. A good background source to put different mining strikes between 1848 and 1880 in perspective.

Peffer, Louise E.

1951 *The closing of the public domain: disposal and reservation policies 1900-1950*. Standard University Press, Stanford.

Very good, detailed account of the end of public domain. Bills and laws are discussed in light of their beginnings and implications. Discusses the conservation movement, leasing of natural resources, forest grazing, and the Taylor Grazing Act.

Pend Oreille County Rural Development

1969 Pend Oreille County. Ms. on file, Soil Conservation Service, Newport, Washington.

A report produced by the Pend Oreille County Rural Development Committee that detailed the economic potential of the county. The manuscript was divided in sections with a short history for each.

Phiffer, Michael A.

1981 An unusual logging railroad system in northern Idaho. Paper presented at the 14th annual meeting for the Society of Historical Archaeology, New Orleans.

The author of this paper discusses remnants of several different logging technologies, utilized in the early 1900s, from the Marble Creek area of the St. Joe National Forest.

Phillips, Earl L.

1965 Climate of Washington. *U.S. Department of Commerce, Weather Bureau, Climatology of the United States.* 60-45.

Summarizes climatic characteristics of Washington by climatic areas, one of which is eastern Washington which in turn is divided into five sections; the northeastern section includes the area of this overview in Washington.

Putnam, Mrs. Van B.

1965 Old Bossburg and her ferries. Ms. on file, Colville Public Library, Colville, Washington.

Local history showing importance of transportation and related events in the Bossburg and nearby area. Concentrates especially on ferries and railroads.

Raisz, Erwin

1865 *Landforms of the northwestern states.* (Third revised ed.). Harvard University.

Landforms of the northwestern states. Detailed hand-textured relief maps of Idaho, Oregon, Washington, and northwestern Montana.

Rauffer, Maria I.

1966 *Black robes and Indians on the last frontier: a story of heroism.* Bruce, Milwaukee.

A history of Catholic missions, chiefly the Okanogan area. Contains many useful quotations from rare sources.

Ray, Verne F.

1932 The Sanpoil and Nespelem, Salishan peoples of northeastern Washington. *University of Washington Publications in Anthropology* 5.

The best ethnography of the interior Salish south of the international boundary. Ray's choice of one of the more atomistic and unaggressive groups of the Plateau led him to make some rather sweeping generalizations along these lines for the whole Plateau.

- 1936 Native villages and groupings of the Columbia Basin.
Pacific Northwest Quarterly 27:99-152.

A listing of village sites and ethnolinguistic tribes.

- 1937 The Bluejay character in the Plateau Spirit Dance.
American Anthropologist 39:593-601.

One of the most important papers on Interior Salish religion.

- 1939 Cultural relations in the Plateau of northwestern America.
*Publications of the Frederick Webb Hodge Anniversary
Publication Fund*, Vol. 3, Los Angeles.

A technical book that views cultures in terms of the aggregates of traits.

- 1942 Culture element distributions: 12: Plateau. *Anthropological
Records* 8(2):99-257. University of California Press, Berkeley.

Extensive trait lists that are quite incomplete and in which important ethnolinguistic tribes such as the Colville are left out.

Reid, Rolland R.

- 1961 An ever-changing industry. In Idaho's mineral industry-the first one hundred years. *Idaho Bureau of Mines and Geology
Bulletin* 98.

Part of a pamphlet concerned with the development of mining in Idaho. This section deals very generally with the changes in the mining industry.

Renk, Nancy F.

- 1978 The northwest boundary survey. Ms. on file, Bonner County Historical Society, Sandpoint, Idaho.

Brief history of the Boundary Commission with emphasis on the northwest portion.

Renk, Thomas and Dennis Roubicek

1975 An archaeological overview of the Sandpoint Planning Zone, Idaho Panhandle National Forests. *University of Idaho Anthropological Research Manuscript Series 20.*

An overview of cultural resources in the Sandpoint Planning Zone which identifies sites and develops the concept of high, medium, and low potential areas.

Rice, David G.

1968 Archaeological investigations in the Coulee Dam National Recreation Area, spring 1968. *Washington Laboratory of Anthropology Report of Investigations 45.*

Source reports test investigations and artifacts recovered with recommendations for further work. Primarily prehistoric sites.

1979 Results of an archaeological reconnaissance of proposed timber sale areas in Idaho Panhandle National Forests. *University of Idaho Anthropological Research Manuscript Series 20.*

The methods, results and recommendations for a number of timber sales for the Forests are detailed in this report.

Rice, David G., Mary Giddings, Signe Johnson

1974 An overview of archaeological resources in Region One National Forests in northern Idaho final report: Salmon River to the Canadian line. *University of Idaho Anthropological Research Manuscript Series 15.*

Historic sites were recorded on basis of literature review and informant interviews. Site information given in report consists of listings of number of sites found which are listed by type of site.

Rice, David G., Lorelea Hudson, Duane Marti

1977 An archaeological reconnaissance of the St. Joe Wild and Scenic River Study Area Idaho Panhandle National Forests. *University of Idaho Anthropological Research Series 32.*

Report includes a history of land use, cultural resource inventory and reconnaissance, and recommendations.

Rice, K.A.

1971 *Climate of Idaho. U.S. Dept. of Commerce, Weather Bureau, Climatography of the United States 60-10.*

Summary description of temperative, precipitation, snowfall, floods, humidity, fog, storms, sunshine, and growing season characteristics for Idaho. Also presents climatic statistics for weather stations, those in the Panhandle and North Central Prairie being of relevance to the study area.

Richmond, G.M., R. Fryxell, G.E. Neff, and F.L. Weiss

1965 *The Cordilleran ice sheet of the northern Rocky Mountains and related Quarternary history of the Columbia Plateau. In The Quarternary of the United States, edited by H.E. Wright and D.G. Frey, pp. 231-242. Princeton University Press, Princeton.*

Summary of quarternary geology pertaining to the Cordilleran glacier complex including its extent and related geological features.

Richard, T.A.

1932 *A history of American mining. McGraw-Hill Book, New York.*

This book discusses the development of mining, mineral discoveries in Alaska, the Comstock Lode, Colorado, the Mississippi Valley, Salt Lake, the Black Hills, Lake Superior, the southwest, and the northwest. Mining techniques are also briefly discussed.

Robinson, Glen O.

1975 *The Forest Service. The John Hopkins University Press, Baltimore.*

Updated book which reflects policies and workings of the Forest Service in management of number of resources. Brief general history of the creation of the service and sister management agencies. Covers the bureaucracy of the Forest Service and how management of resources works.

Ross, Alexander

1825 *Journal kept at Flathead post during the winter 1824/25. Ms. on file, Hudson's Bay Company Archives B. 60/a/1, Winnipeg.*

A short journal revealing trading rendezvous routines. It has been so extensively quoted that most of it must now be in published form.

Ross, Lester

1969 Archaeological investigations in the Coulee Dam National Recreation Area, spring 1969. Laboratory of Anthropology, Washington State University, Pullman.

Report of excavations, test excavations, and surveys in Lincoln, Ferry and Stevens counties.

Ross, Opal Lambert

1979 *Landed gentry 1871-1978*. Privately printed.

Local history of part of Latah County.

Roy, Prodipto

1961 Assimilation of the Spokane Indians. *Washington Agricultural Experiment Stations, Institute of Agricultural Sciences, Washington State University, Bulletin 628*.

Probably the first study to show how the first attempts at acculturation by Plateau tribes were destroyed by various agencies.

Ruby, Robert H. and John A. Brown

1970 *The Spokane Indians, Children of the Sun*. University of Oklahoma Press, Norman.

A history of the Spokane, useful for data that are not easy to find but rather uncritical in the use to which they are put. Some factual errors betray the lack of familiarity with the area and its history.

Russell, Bert

1979 *Swiftwater people: lives of old timbers on the Upper St. Joe and St. Maries Rivers*. Lacon, Harrison, Idaho.

Recollections of homesteaders and loggers in the St. Maries, Ferrell, and Santa areas.

Rust, H.J.

1912 A brief historical and archaeological sketch of Lake Coeur d'Alene, Kootenai County, Idaho. *The Archaeological Bulletin*, 3(2):46-48, Madison.

Rust generally discusses the cultural resources in the Lake Coeur d'Alene area.

Salmond, John A.

1967 *The Civilian Conservation Corps: 1933-1942*. Duke University Press, Durham, North Carolina.

Discusses politics behind development of CCC - Roosevelt Fechner (National Director of CCC). Good overall discussion of CCC, its purposes, achievements, and problems. Not specific as to camp locations, but deals rather with the CCC on a national level.

Savage, C.N.

1965 Geologic history of the Pend Oreille Lake region in north Idaho. *Idaho Bureau of Mines and Geology Pamphlet 134*.

Summary of era by geologic history of the Pend Oreille Lake region. Also includes a brief description of economic mineral deposits in the region.

Schaeffer, C.E.

1940 *The subsistence quest of the Kutenai*. Unpublished Ph.D. dissertation, Department of Anthropology, University of Pennsylvania.

A probing study into subsistence tactics and technology of the Kutenai; much valid data but some of his conclusions appear to have been too strongly influenced by the boreal orientation of some of his professors.

1937 Untitled. Ms. on file at the Glenbow, Alberta, Institute.

Ethnographic notes and report drafts of Schaeffer's dissertation spanning a wide range of ethnographic topics. Most of the focus of Schaeffer's work is on the Upper Kutenai.

Schalk, Randall

1977 The structure of an anadromous fish resource. In *For theory building in archaeology: essays on faunal remains, aquatic resources, spatial analysis, and systemic modeling*, edited by L.R. Binford, pp. 207-249. Academic Press, New York.

Some important things to remember about salmon fishers.

Schell, Frank R.

1973 *Ghost towns and live ones: a history of Idaho post offices 1862-1973*. Privately printed, Twin Falls, Idaho.

Maps of location of post offices by year, lists of post offices by county, alphabetical list of post offices with date established and discontinued, and first postmasters makes this source a good reference for the location and history of small towns and nonexistent communities.

Scheurmann, Richard and Clifford Trafzer

1980 First people of the Palouse country. *Bunchgrass Historian*, 8(3).

Basic description and history of the Palus Indians.

Schroedl, G.F.

1973 The archaeological occurrence of bison in the southern Plateau. *Washington State University, Laboratory of Anthropology, Report of Investigations* 51.

Summary of archaeological evidence for the presence of bison in the Columbia Plateau. Schroedl proposes a chronology for the spread and decline of the bison population.

Schwede, Madge L.

1966 An ecological study of Nez Perce settlement patterns. Unpublished M.A. thesis, Washington State University, Pullman.

An ecological study of the regional distribution and frequency of Nez Perce settlements.

1970 The relationship of aboriginal Nez Perce settlement patterns to physical environment and to generalized distribution of good resources. *Northwest Anthropological Research Notes* 4:129-136.

Basically, the same premise has been used in this paper as in Schwede's 1966 thesis.

Scott, Garland A.

1967 *Pioneer days on the shadowy St. Joe* Caxton, Caldwell, Idaho.

Well-written, but very personal, account of pioneer life in the St. Joe valley.

Shawley, Steven

1977 Nez Perce trails. *University of Idaho Anthropological Research Manuscript Series 44.*

Short text but extensive maps of trails used by the Nez Perce. The author estimates that these are only about 10 percent of the trails used.

Shiner, Joel

1950 Archaeological resources in the Albeni Falls Reservoir, northern Idaho Columbia Basin Project. Ms. on file, River Basin Surveys, Smithsonian Institution.

This unpublished report, obtained from the Smithsonian Institution, is a draft of the 1953 report that details the survey and sites found along the shore of Lake Pend Oreille and the Pend Oreille River.

1953 Archaeological reconnaissance in the Albeni Falls Reservoir, Idaho. Ms. on file, Archive of Pacific Northwest Archaeology, University of Idaho, Moscow.

Discusses survey, informants, and sites identified in the proposed Albeni Falls Reservoir.

Shuttleworth, Henry

1870 Shuttleworth to W.P. Winans, Kettle Falls, June 6, 1870. Winans Papers. Ms. on file, Washington State University Archive, Pullman.

Part of Shuttleworth paper discusses conditions of people in eastern Washington.

Simpson, Charles and E.R. Jackman

1967 *Blazing forest trails*. Caxton Printing, Caldwell, Idaho.

Collection of interesting and informative recollection about the Forest Service.

Sims, Cort

1980 A synopsis of USDA Forest Service cultural resource activities on the Idaho Panhandle National Forests before March 31, 1980. Ms. on file, Idaho Panhandle National Forests Supervisor's Office, Coeur d'Alene, Idaho.

Brief summary of cultural resource work in the area from the late 1800s to 1980. Bibliography, list of project numbers and corresponding cultural resource inventory, reports, and maps illustrating which report is associated with which area are included in the manuscript.

Slickpoo, Allan

1979 Transcript notes of interview. On file Clearwater National Forest Supervisor's Office, Orofino, Idaho.

In this interview Allan Slickpoo discusses vision quests among the Nez Perce Indians.

Sloane, Howard N. and Lucille L. Sloane

1970 *A pictorial history of American mining*. Crown, New York.

A general history of mining from pre-Columbian time to the present. It covers metallic and nonmetallic minerals. Mentions Coeur d'Alene gold rush but mainly concentrates on lead, silver, and zinc and labor problems in Coeur d'Alene (1890s). Good introduction to mining and techniques. Excellent photos and good bibliography.

Smalley, Eugene V.

1883 *History of the Northern Pacific Railroad*. G.P. Putnam's Sons, New York, reprinted by Arno Press.

Great book concerning the history of the Northern Pacific, planning, congressional action, politics, financing, surveys, and building are all discussed in addition to a brief description of the area.

Smith, Allan H.

1961 An ethnohistorical analysis of David Thompson's 1809-1811 journeys in the Lower Pend Oreille valley, northeastern Washington. *Ethnohistory* 8:4:309-381.

Dr. Smith plots Thompson's journey on the Lower Pend Oreille River using original sextant readings. His results show that Thompson proceeded further downstream than historians had previously believed.

Smith, Allan H. (con't)

1966 Kalispel sites in northern Idaho: Pend Oreille River, Pend Oreille Lake, and Clark Fork area. Ms. on file, Archives of Pacific Northwest Archaeology, Moscow.

This report describes the locations of Kalispel sites in northern Idaho and it draws on Dr. Smith's own work.

Smith, Robert Wayne

1932 History of placer and quartz gold mining in the Coeur d'Alene District. Unpublished M.A. thesis, University of Idaho, Moscow.

This book gives a good description of the gold rush in the Prichard area in the 1880s. Smith also briefly discusses gold mining in the early 1900s. This thesis has a good annotated bibliography.

Space, Ralph S.

1972 *Pioneer timbermen: a history of the rush to acquire the white pine forests of the Clearwater country in Idaho*. Privately printed, Lewiston, Idaho.

Brief account of the beginning of the timber industry in Clearwater country with references to the settlement of Bovill and St. Maries. Covers the rush for timberland, formation of Clearwater Timber Company, Clearwater Timber Protective Association, and the acquisition of land in the area.

Spencer, Betty G.

1956 *The big blowup*. Caxton, Caldwell, Idaho.

A discussion of the 1910 forest fire. This author is considered one of the leading sources for the 1910 fire.

Spier, Leslie

1936 Tribal distribution in Washington. *University of Washington Publications in Anthropology* 3:151-300.

This text generally discusses the distribution of Native Americans in Washington.

1938 *The Sinkaietk or Southern Okanogan of Washington*, by Walter Cline, Rachel S. Commons, May Mandelbaum, Richard H. Post, and L.V.W. Walters. *General Series in Anthropology* 6.

Another very valuable ethnography, but rough going and quite fragmented; parts are very thoughtful.

Spinden, H.J.

1908 The Nez Perce Indians. *Memoirs of the American Anthropological Association* 2.

One of the first ethnographic discussions of the Nez Perce including archaeological observations.

Sprague, Roderick

1967a Aboriginal burial practices in the Plateau region of North America, Unpublished Ph.D. dissertation, University of Arizona.

Sprague primarily discusses burial practices from orientation data collected during the removal of the Palus burials.

1967b A preliminary bibliography of Washington archaeology. *Washington State University Laboratory of Anthropology Report of Investigations* 43.

Extensive bibliography which includes newspaper articles, journals, and publications concerned with Washington archaeology. References cited in this bibliography can be found on file in the Archive of Pacific Northwest Archaeology.

Sprague, R. and W.H. Birkby

1970 Miscellaneous Columbia Plateau burials. *Tebiwa*, 13(1):1-32.

This work contains descriptions of grave goods found in burials excavated from two different sites in eastern Washington and northern Idaho from 1959 to 1967.

Stanley, George F.G.

1970 *Mapping the frontier*. University of Washington, Seattle.

Diary of Charles Wilson who was a member of the British Boundary Commission.

Statesman Index, The

1899 *Stevens County and its sources*. The Statesman Examiner, Colville.

Brief description of the county as it was in 1899. Discusses mines currently in use, horticulture, and towns. Covers the Colville, Columbia, and Calispel valleys.

Stevens, Harold D.

1955 An analysis of Coeur d'Alene Indian-White interrelations.
Unpublished M.A. thesis, University of Idaho, Moscow.

The author discusses the Coeur d'Alene from 1805 to 1950s.
He partially relies on interviews taped in the 1950s by
Dr. Alfred Bauers for the land claims.

Stevens, Isaac I.

1855a The Nez Perce, Cayuse, and Palouse. *Report of the Commission
of Indian Affairs* 86.

Contains observations by Stevens of these Native American
groups.

1855b *Report of explorations for a route for the Pacific rail-
road near the Forty-seventh and Forty-ninth parallels of
north latitude from St. Paul to Puget Sound.* 33rd Congress,
2nd Sessions, House Executive Document 91, vols. 1 and 12.

This report discusses people, flora, fauna, and the settings
encountered by Stevens and his parties as they surveyed a
railroad route through north Idaho and into northeastern
Washington.

Strong, Clarence C. and Clyde S. Webb

1970 *White pine: king of many waters.* Mountain Press, Missoula.

The author discusses lumbering in Coeur d'Alene, St. Joe, and
St. Maries areas from the late 1800s to the 1940s. This
discussion includes logging types, unions, forest fires,
acquisition of forest lands, sawmills in the area, shingle
mills, mining, and transportation from early times to
modern equipment. The book also has appendices with lists
of logging companies and owners, areas logged and when, also
sawmills and shingle mill locations, and dates of operation.

Suckley, George

1855 *Reports of surveys and explorations to ascertain the most
practicable and economical route for a railroad from the
Mississippi River to the Pacific Ocean, Vol. 1,* Washington,
D.C.

Includes observations on the environment and aboriginal
populations of northwestern Montana, northern Idaho, and
northern Washington during 1854-1855.

Sundel, Michael

1979 History of the Marble Creek area. Ms. on file, Idaho Panhandle National Forests, Supervisor's Office, Coeur d'Alene.

Well-written account of the history of Marble Creek and logging events in the area. Much of the account seems to be based on the earlier anonymous history of Marble Creek. Selected bibliography.

Swadesh, Morris

1952 Salish phonologic geography. *Language* 28:232-248.

This paper contains a comparison between Coeur d'Alene and Wakashan/Quileute linguistic elements as a positive feature of a hypothetical linguistic genetic relationship between the two.

Swanson, Earl H., Jr.

1968 Archaeological survey of northern Idaho. *American Philisophical Society, Year Book*, pp. 703-704.

This paper discusses the survey that was made by two archaeologists in north Idaho. Most site locational data came from informants.

Teit, James

1900 The Thompson Indians of British Columbia. *Memoirs of the American Museum of Natural History* 1(4):163-393.

The most impressive of the Boasian ethnographies of the Pacific Northwest.

1928 The Middle Columbia Salish. *University of Washington Publications in Anthropology* 2(4):83-128.

The Palus and Yakima are discussed in this text.

1930 The Salishan tribes of the western plateaus, edited by Franz Boas. *Forty-fifth annual report of the Bureau of American Ethnology*, pp. 23-396.

The main ethnographic source for several groups. Some of the data are now well organized, nevertheless they cannot often be matched. Both Colville and Spokane are treated peripherally.

Thompson, A.W.

1971 The early history of the Palouse River. *Pacific Northwest Quarterly* 62(2):69-76.

Historical references traced to Palouse River through literature beginning with the journals of the early explorers and fur traders.

Thompson, David

1810 Journals. Public Archives of Canada, Ottawa.

Daily journals, very difficult to use because of the frequent change of system.

Throop, Elizabeth Gail

1979 Utterly visionary and chimerical: a federal response to the Depression. Unpublished M.A. thesis, Portland State University, Portland.

A discussion of the CCC in the Region 6 area of the U.S. Forest Service.

Timmen, Fritz

1973 *Blow for the landing*. Caxton, Caldwell, Idaho.

This book discusses stern and slide wheelers on the Columbia River drainage.

Treide, Dietrich

1965 Die organization des Indianischen lachsfangs im weslichen Nordamerika. *Veroffentlichungen des Museums fur Volkerkunde zu Leipzig*, Heft 14. Akademie-Verlag, Berlin.

A study of salmon chiefs and other subsistence governors. One of the few truly ethnological treatises on the Plateau.

Trimble, William J.

1914 The mining advance into the Inland Empire. *Bulletin of the University of Wisconsin* 638; History Series 3(2):137-392.

This often cited source discusses mining rushes into Idaho, Montana, Washington, and British Columbia. There are excellent discussions of the opening of mining districts, economic aspects of mining, methods of production and transportation, social aspects of mining, and political aspects. Some of the most interesting information given is on mining life and towns.

Trimble, Louis

1952 The Wild Horse trail. *The Spokesman Review*, November 30:5,13.

A history of the Wild Horse trail with mention of David Thompson. The article deals mainly with the time period from 1860 to 1895.

Tugwell, Rexford G.

1959 The resettlement idea. *Agricultural History* 33(4):159-164.

The idea for the Resettlement Administration was that of the author of this article. Tugwell discusses the problems the administration had with Congress and farm groups and how these problems led to the demise of the original organization.

Tuohy, Donald R.

1958a Horseshoes and hammerstones: the meeting of history and prehistory at the Old Mission of the Sacred Heart. *Idaho Yesterdays* 2(2):20-27.

Tuohy discusses the historic and prehistoric resources at the Mission of the Sacred Heart from a gas line survey he performed.

1958b An archaeological survey of several natural gas pipeline laterals in Washington and Idaho. *Tebiwa* 2(1):1-8.

During this survey, Tuohy found nothing of significance on the Spokane to Coeur d'Alene lateral. However, from Coeur d'Alene to Kellogg, two sites were identified. One was a campsite on the Coeur d'Alene River and the other was a camp by the Mission of the Sacred Heart.

Turner, Nancy J., Randy Bouchard, and Dorothy I.D. Kennedy

1980 Ethnobotany of the Okanogan-Colville Indians of British Columbia and Washington. *Occasional Papers of the British Columbia Provincial Museum* 21.

An illustrated ethnobotany that is professional from both the botanical and the ethnolinguistic standpoints.

Turney-High, H.H.

1941 Ethnography of the Kutenai. *Memoirs of the American Anthropological Association* 56.

A discussion of the subsistence, housing, transport, technologies, social organization, language, and religion of the Kutenai.

Tyler, Robert L.

1967 *Rebels of the woods: the I.W.W. in the Pacific Northwest.*
University of Oregon Books, Eugene, Oregon.

Source covers Oregon, Washington, Idaho, and Montana and the development of the Industrial Workers of the World organization in the lumber industry. Covers the 1917 strike and major events following the strike. Detailed accounts of persons and towns involved with particular emphasis on Washington state.

United States Bureau of Indian Affairs

1976 *Coeur d'Alene Indian Reservation human and natural resources supportive data.* Planning support group report 238.
Department of the Interior.

A planning document requested by the Coeur d'Alene Tribal Council originally intended as supportive material concerning Heyburn State Park. It was expanded to include reservation-wide data on human, agricultural, forest, and water resources of the Coeur d'Alene Tribe.

United States Department of Agriculture

1906 *Instructions and decisions affecting National Forest lands.*
Ms. on file, Idaho Panhandle National Forests, Coeur d'Alene.

Discusses homesteading on the forest, among other items.

1944-76 *Early days in the Forest Service, 4 vols.* U.S. Forest Service, Northern Region, Missoula, Montana.

Four volumes of collections of Forest Service employees recollections of life and events in the Forest Service. Such events encountered while a forest ranger as fires, bad roads, CCC camps, policy development, construction, tree planting, and timber harvests are covered.

1970 *An introduction to the St. Joe National Forest.* Forest Service Northern Region Idaho Panhandle National Forests.

A pamphlet that discusses briefly the history of the St. Joe National Forest and its management of our forest lands.

1971 *Review of cultural past of the Lakeview Planning Unit.*
Ms. on file, Supervisor's Office, Idaho Panhandle National Forests, Coeur d'Alene.

A very brief history of the Lakeview area.

United States Geological Survey

- 1976 *The channeled Scablands of Eastern Washington: The geologic story of the Spokane flood.* U.S. Government Printing Office, Washington, D.C.

Abundantly illustrated description of geologic manifestations relating to the empoundment of glacial Lake Missoula and the results of the catastrophic failure of the ice dam.

United States Government

- 1863 An act to secure homesteads to actual settlers on the public domain. *U.S. Statutes at Large*, Volume 12, Little, Brown, Boston.

This is the piece of legislation that enacted the Homestead Act of 1863.

Viereck, Leslie A.

- 1967 Botanical dating of recent glacial activity in western North America in H.E. Wright and W.H. Osburn, eds. *Arctic and Alpine Environments*. Indiana University Press.

Summarizes botanical evidence (tree ring analysis and lichenometry) in support of a chronology for glacial advances of recent centuries in mountainous northwestern America.

Vollmer, John P. (editor)

- 1903 *An illustrated history of north Idaho*. Western Historical, Spokane.

This is an early basic resource concerning the history of north Idaho. It covers exploration, settlement, mining, politics, and education. Descriptions of towns, cities, and notable citizens are also given.

Waldbauer, Richard C.

- 1979 The history and archaeology of the Gold Butte lookout. Ms. on file, Palouse Ranger District, Potlatch, Idaho.

Good account of lookouts - how they were built and the material objects associated with them. Report discusses history of the lookout, archaeological investigations and the results of such work.

Walker, Deward E.

- 1967 Mutual cross utilization of economic resources in the Plateau: an example from aboriginal Nez Perce fishing practices. *Washington State University, Laboratory of Anthropology, Report of Investigations* 41.

A discussion on Plateau intergroup relations with emphasis on Nez Perce fishing practices, technology, and location. Based on Anastasio (1955), Hewes (1948) to a large extent. Prompted by court cases on monetary tribal settlements for loss of fishing rights at the Dalles/Lelilo Falls.

- 1968 *Conflict and schism in Nez Perce acculturation*. Washington State University Press, Pullman.

The author discusses social, religious, political organization, and factionalism through time.

- 1971 Measures of Nez Perce outbreeding and the analysis of cultural change. In *The Emergent Native American*, edited by D.E. Walker, Little, Brown, Boston.

The author discusses social, religious, political organizations, and factionalism through time.

- 1978 *American Indians of Idaho*. University of Idaho Press, Moscow.

Summarizes most anthropological and historical writings on the Native people of this region. It does not deal with contemporary cultures. A world view of subsistence and social organization are discussed.

Walker, Mary

- 1848 Walker to Elkanah Walker, Oregon City, 22 October 1848. Ms. on file, Washington State University Archives, Walker Collection, Pullman.

A letter from Mary Walker to her husband, while she was at Oregon City, in which she mentions seeing some Spokane Indians.

Weaver, Robert M.

- 1976 A preliminary study of archaeological relationships at the Mission of the Sacred Heart of Jesus to the Coeur d'Alene Indians. Unpublished M.A. thesis, University of Idaho, Moscow.

This thesis discusses the Reduction System of the Jesuits and the history of the Jesuits in the U.S. and northwest. Specific history of the Mission of the Sacred Heart from 1843 to the excavation in 1974 is also presented.

Wells, Merle W.

- 1959 David Thompson in Idaho. *David Thompson Sesquicentennial Symposium*, Sandpoint, Idaho.

This pamphlet was distributed at the symposium dealing with Thompson in Idaho, Washington, and Montana. The articles are from the talks of guest speakers.

- 1961 History of mining in Idaho. In Idaho's mineral industry - the first one hundred years. Moscow: *Idaho Bureau of Mines and Geology*, Bulletin 18.

Brief history of Idaho mining. Part of an overall pamphlet concerning the development of the mining industry in Idaho. Fairly general, but a good start.

White, Catherine M.

- 1950 *David Thompson's journals relating to Montana and adjacent regions 1808-1812*. Montana State University Press, Missoula.

White discusses part of Thompson's journals that hadn't been previously published and pertaining primarily to Montana and Idaho. Good annotated bibliography.

Wilson, Charles

- 1866 Report on the Indian tribes inhabiting the country in the vicinity of the forth-ninth parallel of north latitude. *Transactions of the Ethnological Society of London*, 4(New Series), pp. 275-332.

Probably the earliest purely ethnographic report on the northern Plateau, done by a military amateur.

Winans, William P.

- 1870 Winans to Samuel Ross, Spokane Bridge, 1 August 1870. Ms. on file, Winans Papers, Washington State University Archives, Pullman.

In this letter, Winan mentions the location and fishing habits of the Spokane Indians as well as plant gathering.

- 1900 *Stevens County Washington: its creation, addition, subtraction, and division*. Publisher unknown.

Briefly discusses the creation of Stevens County, settlement, U.S. Army at Fort Colville, Indian wars, and missionary settlement. Some information is based on author's own experiences and some is based on informants. Several short biographies included of local people significant in settlement of area.

Womack, Bruce Martin, John Taylor, and Dale Martin

- 1977 The military wagon road-Mullan Road. National Register of Historic Places Inventory Nomination Form, Ms. on file, Idaho Panhandle National Forests, Coeur d'Alene, Idaho.

This site form includes some history of the Mullan Road.

Work, John

- 1829 Answers to queries on natural history, Fort Colville, 1 April 1829. Ms. on file, Hudson's Bay Company Archives B. 45/4/2, Winnipeg.

A clearcut demonstration of the scientific interest taken by the Hudson's Bay Company in its trading areas. A number of ethnographic facts not known elsewhere are here recorded.

- 1830 Some information relative to Colville District, April 1830. Ms. on file, Hudson's Bay Company Archives B. 45/4/3, Winnipeg.

Similar to previous entry, but less systematic.

Yeager, Walter M.

- 1961 The pioneer's problems of land acquisition under public land laws in southeastern Washington: 1850-1883. Unpublished M.A. thesis, Washington State University, Pullman.

The author of this thesis discusses the "free" land laws and their relation to the development of Whitman, Walla Walla, Columbia, Garfield, and Asotin counties, Washington.

Young, Otis E. Jr.

- 1970 *Western mining*. University of Oklahoma Press, Norman.

This is an account of mining and milling on the American frontier from Spanish times to 1893. Good annotated bibliography and glossary of mining terms (Spanish and Cornish) are included.

Zeigler, Joe T.

- 1974 Fifty years of logging. *The Big Smoke*, 23-26. Pend Oreille County, Washington Historical Society.

A very brief history of logging in the Pend Oreille County and Priest Lake and River area during the early years of this century.

Appendix A

Mining District Laws

(Following is a copy of the by-laws adopted by the first miners locating in the new regions:

Local laws of the Coeur d'Alene mining district located on Eagle Creeks, Shoshone County, Idaho Territory:)

BY LAWS.

Sec. 1. All locations on lodes or veins of quartz to conform with the United States laws of May 10, 1872, as nearly as practicable, viz: Fifteen hundred feet (1500) in length, by six hundred feet in width.

Sec. 2. Placer mining claimants shall be allowed twenty acres, to be located so that the length shall not exceed eighty rods.

Sec. 3. Each location shall be represented by the locator or his authorized agent in locating and recording.

Sec. 4. No person shall be restricted to one claim, but may locate one claim in any stream or gulch where vacant ground may be found. But no person shall be allowed to locate more than one claim on the same stream or gulch. Persons shall not be prohibited from holding claims acquired by purchase.

Sec. 5. Claimants shall have one year from the first of January succeeding the date of location to work their first annual assessment which shall be one hundred dollars. Each year thereafter claims shall be represented by twenty dollars worth of labor each month after the first of June until the first of November after the first year's assessment. Furthermore, all claims shall be considered laid over from the first of November to the first of June. All necessary work, such as making roads or trails, building houses, or any improvements in opening or working a claim, will be allowed five dollars per day as assessment labor.

Sec. 6. Claimants will be required to record their claims in the district record within fifteen days from the date of location.

Sec. 7. The oldest or first claimants shall have the first privilege of water, but shall not prohibit others from using the surplus water, and all claimants shall be required to return the water to the channel of the stream for the benefit of those below.

Sec. 8. Several miners may form a company for the purpose of opening and working mines in placer claims, when such claims are contiguous, and the labor performed by said company shall represent their several claims, although the amount of labor for the convenience of opening and working may be done on one claim.

Sec. 9. Difficulties arising between parties in the mining district shall be settled by arbitration, each disputant to be allowed an equal number of arbitrators, and in case of a tie on decision said arbitrators will have power to call an assistant.

Sec. 10. All claims located prior to the date of the adoption of these by-laws shall be respected just the same as those made after said date.

Sec. 11. The records of the Coeur d'Alene Mining District, in Shoshone County, Idaho Territory, shall be kept at the house of A.J. Pritchard, Recorder, near the confluence of Eagle and Pritchard Creeks.

Sec. 12. On the written application of 12 or more miners, the Chairman shall cause three notices to be posted up in three conspicuous places, giving ten days' notice of a meeting, said notices to specify the object and business to be transacted at such meeting. To make any changes in the present by-laws between the first of November and the first of June the following year shall be illegal.

Sec. 13. The laws shall take effect from this date, and any laws or regulations previously enacted that conflict with these laws shall be considered repealed.

From The Coeur d'Alene Nugget, Vol. I, No. 5, Wednesday, April 9, 1884. (Taken from Smith 1932:110-111).

Appendix B

GLOSSARY OF MINING TERMS USED IN IDAHO IN 1891*

- Adit.* A level, horizontal drift or passage from the surface into a mine.
- Bed.* A horizontal seam or deposit of mineral.
- Blende.* An ore of zinc, consisting of zinc and sulphur.
- Breast.* The face of a tunnel or drift.
- Cap.* A vein is in the "cap" when it is much contracted; also, the covering of a vein.
- Carbonates.* Soft carbonates; salts containing carbonates; the same with iron for a base.
- Chlorides.* A compound of chlorine and silver.
- Cheek.* The side or wall of a vein.
- Chimneys.* The richer spots in lodes as distinguished from the poorer ones.
- Contact vein.* A vein along the contact plane or between two dissimilar rock masses.
- Country rock.* The rock masses on each side of a vein.
- Course of a vein.* Along its length (see "strike").
- Cribbing.* A timber or plank lining of a shaft; the confining of a wall.
- Cropping out.* The raising of layers of rock exposed at surface.
- Crosscut.* A level driven across the course of a vein.
- Cut.* To intersect a vein; open cut, level without a covering driven across the course of a vein.
- Dip.* The slope, pitch, or angle which a vein makes with the plane of the horizon.
- Drift.* A horizontal passage underground.
- Dump.* A place of tailing or waste rock; also ore.
- Face.* The end of a drift or tunnel.
- Fault.* A displacement or break of strata or veins so that they are not continuous.
- Feeder.* A small vein entering a large one.
- Fissure vein.* Fissure or crack in the earth's crust filled with mineral matter.
- Float.* Loose rock or isolated masses of ore detached from the original formation.
- Footwall.* The layer of rock immediately under the vein.

GLOSSARY OF MINING TERMS USED IN IDAHO IN 1891 (Continued)

- Galena.* Lead ore, sulphur, and lead.
- Gangue.* The substance enclosing and accompanying the ore in a vein.
- Gash vein.* A vein wide above and narrow below.
- Geode.* A cavity studded round with crystals of mineral matter; a rounded stone containing such a cavity.
- Hanging wall.* The layer of rock or wall over a lode.
- Horse.* A mass of rock matter occurring in or between the branches of a vein.
- Heading.* The vein above the drift.
- Inclined drift.* An inclined passage under ground.
- Infiltration.* The theory that vein filling is introduced by an igneous fluid and solidified.
- In place.* A vein or lode, inclosed on both sides by fixed and immovable rock.
- Lagging.* The timber over and upon the sides of a drift.
- Level.* A horizontal passage or drift into a mine from a shaft.
- Lode.* Aggregations of mineral matter containing ore in fissures.
- Matrix.* The rock or earthy matter containing metallic ore.
- Mill run.* A test of quantity of ore after reduction.
- Outcrop.* That portion of the vein appearing at the surface.
- Pocket.* A rich spot in a vein or deposit.
- Selva.* Thin band of earthy matter between the vein and the walls.
- Shaft.* A well-like excavation in the earth.
- Slickensides.* Smooth polished surfaces of walls caused by violent trituration.
- Stope.* One of a series of steps, into which the upper surface of an excavation is cut; to excavate in the form of steps above a drift.
- Stoping.* The act of stoping or breaking down the surface of an excavation with a pick.
- Strike.* The extension of a lode in a horizontal direction.
- Stull.* A framework covered with timber or planks.
- Sublimation.* The theory that the vein matter was introduced in a gaseous condition.
- Stump.* The lowest part of the shaft, used for receiving water.
- Tunnel.* A level driven at right angles to the vein, which is the object to be reached.
- Vein.* Aggregations of mineral matter, in fissures of rocks.
- Walls.* The sides next to the lode.
- Whim.* A machine for raising ores and refuse.
- Winze.* A shaft sunk from one level to another.

* From: *Livingston-Little* 1965:122.

Appendix C

Logging Railroads in Northeastern Washington and North Idaho*

Name	Location	Mileage of Line	Dates
<u>WASHINGTON</u>			
Burke & Lane L Co	Colville	22	1906-
Chinook L & Mfg Co	Republic	40	(1931)
Dalkena L Co	Dalkena	12	1923-1936
Fidelity L Co	Newport	2	(1909)-1915
Fobes T Co	Colville	3	(1927)
L B Frazier & Son	Okanogan	8	1937-1938
Walsh L Co	Orient		1910-
Winslow L Co	Colville	20	1910-1934
Colville & Eastern Ry Co	Colville	20	1906-1910
<u>IDAHO</u>			
Atlas Tie Co	Coeur d'Alene	1	1915-(1927)
C W Beardmore	Priest River		1918-
Blackwell L Co	Coeur d'Alene	32	1909-1936
B R Lewis L Co	Coeur d'Alene	15	1904-1909
Coeur d'Alene Southern Ry	Coeur d'Alene	26	1909-(1913)
Ida & Northwestern RR (B R Lewis L Co)	Coeur d'Alene	30	1905-1909
N P Bogle	St. Maries		(1913)
Bonnors Ferry L Co	Bonnors Ferry	15	1907-(1915)
H E Brown T Co	Naples	1	1925-1926
Coeur d'Alene M Co	Coeur d'Alene	17	1934-1943
Diamond Match Co	Sandpoint	17	1927-1943
Burnt Creek RR			1924-
Dollar Lg Co	Wallace		1913-(1915)
Dover L Co	Sandpoint	7	(1910)-1922
Grant L Co	Harrison	6	1916-1919
Hedlund B & L Co	Worley	2	1924-1926
Hopkins Bros	Enaville	3	1926-1930
	Harrison	5	1929-1930
Humbird L Co	Sandpoint	42	1907-1931
Idaho Block Match Co	Sandpoint		1917-
Ida & Wash Northern RR	Coeur d'Alene	14	1907-1916
Inland Empire Paper Co	Athol	15	1915-1934

Note: Abbreviations are noted on page 355.

LOGGING RAILROADS IN
NORTHEASTERN WASHINGTON AND NORTH IDAHO (Continued)

Name	Location	Mileage of Line	Dates
<u>IDAHO (continued)</u>			
T H Kerr	Kellogg	10	1925-
Kootenai Lg & RR Co	Harrison	5	1908-1916
Lewiston L Co	Orofino	6	1908-
MacGillis-Gibbs L Co	Clark Fork	4	(1911-1913)
McGoldrick L Co	Benewah County	35	1905-1946
Milwaukee Lane Co	St. Joe	9	1913-1920
Shoshone & Clearwater Ry	St. Maries	3	1917-1920
Milwaukee L Co	St. Maries	36	1911-1928
Alder Creek RR Co	St. Maries	8	1913-(1920)
St. Maries L Co	St. Maries	7	1913-1923
Marble Creek Valley RR	St. Maries	25	1915-
Coeur d'Alene L Co	Coeur d'Alene	1	(1916)-1920
Mountain L Co	Wallace	11	1926-1930
Norida Land & T Co	Sandpoint	2	1935-1938
Ohio Match Co	Coeur d'Alene	48	1921-1945
Panhandle L Co	Spirit Lake	30	1909-1939
Post Falls L & Mfg Co	Coeur d'Alene		(1912, 1915)
Potlatch L Co	Potlatch	96	1907-1931
Rupp-Holland Lg Co	Coeur d'Alene	8	(1917)-1929
Edward Rutledge T Co	Coeur d'Alene	15	1916-1939
Elk Basin & Marble Creek RR	Bovill		1919-1931
Clearwater T Co	Orofino	30	1927-1931
Rogers L Co	St. Maries	3	1931-1942
Russell & Pugh	Harrison	6	1904-1930
Washington, Idaho & Montana Ry Co	Potlatch	67	1906-present
A C White L Co	Sandpoint	15	1909-1930
Winton L Co	Coeur d'Alene	29	1918-1940
Stack-Gibbs L Co	Coeur d'Alene		1914-1918
Winton-Rosenberry Co	St. Joe	8	1920-1923
Rose Lake L Co	Cataldo	8	(1910)-1923
Hoo Hoo RR	Cataldo	5	(1912)
Hoo Hoo L Co	Cataldo	9	(1906, 1912)

Abbreviations are as follows:

L - Lumber M - Mill
Lg - Logging T - Timber

* From Adams, 1961

Appendix D

NORTH IDAHO POST OFFICES*

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<u>BENEWAH</u>			
Benewah	1911	1937	Mail to St. Maries
Chatcolet	1909	1957	Mail to Plummer
DeSmet	1890		
Emida	1898	1967	
Fernwood	1902		
Ferrell	1902		Name changed to St. Joe 1905
Ferrell	1908	1914	Mail to St. Joe
Lotus	1927	1927	
Musen	1926	1931	
Plummer	1910		
St. Joe	1888	1945	Mail to St. Maries
St. Maries	1889		
Sanders	1901		
Santa	1887		
Sibesta	1915	1925	Mail to Benewah
Silvertip	1914	1918	Mail to St. Maries
Sorrento	1914	1926	Mail to Plummer
Tensed	1911		
Treffrey	1913	1924	Mail to St. Maries
Tyson	1901	1918	Mail to Santa
<u>BONNER</u>			
Albany Falls	1907	1914	
Albeni	1891	1898	Mail to Newport
Blacktail	1902	1911	
Blanchard	1908		Name was White
Boyer	1903	1908	
Broten	1916	1954	
Cabinet	1904	1954	Mail to Clark Fork
Careywood	1911	1967	Mail to Sandpoint
Chance	1904	1907	
Clagstone	1907	1955	Mail to Priest River
Clara	1903	1913	
Clark's Fork	1886	1893	Name changed
Clark Fork	1893		in 1893
Clement	1913	1914	

*From: Schell, Frank R.

1973 Ghost towns and live ones: a chronology of the Post
Office Department in Idaho 1861-1973.

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<u>BOUNDARY (continued)</u>			
Klockman	no date	1930	
Lenia	1906		Name changed to Leonina
Leonai	1892		Name changed to Lenia, 1901
Leonina	1923	1955	Mail to Moyie Springs
McArthur	1902	1922	
Meadow Creek	1913	1943	Mail to Bonners Ferry
Moravia	1903	1943	Mail to Naples
Moyie Springs	1926	1928	
Napes	1892		
Porthill	1896		Name changed to Ockonnook, 1897; Back to Porthill in 1900.
Snyder	1908	1913	
<u>CLEARWATER</u>			
Ahsahka	1899		Was Joseph
Big Island	1908	1911	
Blake	1960	1913	
Cavendish	1894	1944	Mail to Southwick
Davison	1913		
Dent	1896	1956	Mail to Ahsahka
Elk River	1909		Was Trumbull
Fraser	1890	1920	
Gilbert	1903	1922	
Grangemont	1917	1955	Mail to Orofino
Greer	1899	1957	Mail to Orofino
Headquarters	1928		
Neva	1916	1918	
Orifino	1862	1864	
Orofino	1898		
Pierce	1894		
Teakean	1898	1940	Mail to Cavendish
Weippe	1887		

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<u>KOOTENAI (continued)</u>			
Mica	1899	1928	
Monaghan	1908	1910	
Monitor	1905		Name changed to Blackrock, 1907
Morris	1894		Name changed to Bellgrove, 1899
Old Mission	1884	1894	
Post	1887		Name changed to Post Falls, 1890, was Upper Falls.
Post Falls	1890		
Ramsey	1898	1911	
Rathdrum	1881		
Rockford Bay	1911	1965	Mail to Coeur d'Alene
Roselake	1905	1957	Mail to Cataldo
Setters	1916	1924	
Sheridan	1884		Mail to Coeur d'Alene
Sheridan	1884	1884	Mail to Rathdrum
Sherman	1887	1899	
Spirit Lake	1903		
Springston	1901	1955	Mail to Harrison
Stinson	1901	1910	
Twin Lakes	1910	1917	Was Fir Grove
Ventnor	1881	1882	
Worley	1914		
<u>LATAH</u>			
Abe	1892	1893	
Adams	1900	1918	
Almeda	1892	1895	
Amware	1910		
Avon	1891	1953	
Bovill	1907		"Warren Meadows"
Coates	1907	1907	
Collins	1895	1915	
Cora	1892	1907	
Cornell			Mail to Helmer
Cornwall	1887		"Joel," 1901
Crescent	1895	1930	
Deary	1907		Was "Anderson"
Dunlap	1907	1907	
Estes			Mail to Moscow

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<u>KOOTENAI</u> (continued)			
Mica	1899	1928	
Monaghan	1908	1910	
Monitor	1905		Name changed to Blackrock, 1907
Morris	1894		Name changed to Bellgrove, 1899
Old Mission Post	1884 1887	1894	Name changed to Post Falls, 1890, was Upper Falls.
Post Falls	1890		
Ramsey	1898	1911	
Rathdrum	1881		
Rockford Bay	1911	1965	Mail to Coeur d'Alene
Roselake	1905	1957	Mail to Cataldo
Setters	1916	1924	
Sheridan	1884		Mail to Coeur d'Alene
Sheridan	1884	1884	Mail to Rathdrum
Sherman	1887	1899	
Spirit Lake	1903		
Springston	1901	1955	Mail to Harrison
Stinson	1901	1910	
Twin Lakes	1910	1917	Was Fir Grove
Ventnor	1881	1882	
Worley	1914		
<u>LATAH</u>			
Abe	1892	1893	
Adams	1900	1918	Mail to Kendrick
Almeda	1892	1895	Mail to Cora
Amwace	1910		Mail to Deary
Avon	1891	1953	Mail to Deary
Bovill	1907		Originally Warren Meadows (rescinded)
Coates	1907	1907	
Collins	1895	1915	
Cora	1892	1907	Mail to Garfield, Wash.
Cornell			Mail to Helmer
Cornwall	1887		Name changed to Joe, 1901
Crescent	1895	1930	Mail to Southwich
Deary	1907		Was Anderson, 1893
Dunlap	1907	1907	(rescinded)
Estes			Mail to Moscow

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<u>LATAH (continued)</u>			
Freese	1899	1907	Mail to Palouse, Wash.
Genesee	1878		
Harvard	1906		
Helmer	1907	1929	Mail to Deary
Hoodoo	1890	1892	Mail to Starner
Hoodoo	1898	1905	Name changed to Woodfell, 1903
Ivy	1902	1890	Mail to Deary
Jamestown	1883	1907	Mail to Farmington, Wash
Jansville	1893	1893	Mail to Helmer
Joel	1892		Was Cornwall
Juliaetta	1889		
Kendrick	1890		Was Latah, 1889
Kennedy Ford			Mail to Potlatch
Latah	1889		Name to Kendrick, 1890
Lenville	1890	1901	Mail to Genesee
Linden	1889	1929	Mail to Crescent
Mascot	1902	1902	(rescinded)
Millbo	1890	1893	
Nora	1900	1906	Mail to Troy
Park	1896	1920	Mail to Linden
Park	1920	1930	Mail to Southwick
Potlatch	1904		
Princeton	1894		Was Starner, 1890
Stanford			Mail to Avon
Starner	1890		Name changed to Princeton, 1894
Summit			Mail to Avon
Troy	1898		Was Vollmer, 1890
Viola	1883		
Vollmer	1890		To Troy, 1898
Woodfell	1903	1910	Was Hoodoo
<u>SHOSHONE</u>			
Adair	1910	1911	Mail to Avery
Adair	1923	1926	Mail to Wallace
Avery	1910		Was Pinchot
Bayard	1887		Name changed to Burke, 1887
Beaver			Mail to Murray
Beeler	1912	1919	Mail to Masonia
Big Jam	1885	1886	
Black Bear	1903	1919	

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<i>SHOSHONE</i> (continued)			
Black Cloud			Mail to Wallace
Bunn			Mail to Wallace
Burbridge	1927		Was Page
Burke	1887	1966	Was Bayard, Mail to Wallace
Cady	1890	1890	
Calder	1916		
Clarkia	1894		
Cougar	1886	1886	
Coyote	1904	1904	(rescinded)
Crown Point			Mail to Kellogg
Curry	1884		Name changed to Murray, 1884
Delage	1917		Name changed to Adair, 1924
Delta	1880	1912	Mail to Murray
Dorn			Mail to Black Bear
Dorsey			Mail to Mullan
Duthie	1931	1960	Mail to Wallace
Eagle	1884	1893	Mail to Murray
Elk Prairie	1909	1911	Mail to Avery
Emerald	1923	1929	Mail to Fernwood
Enaville	1891		
Ethelton			P.O. name of Pinchot
Evolution	1887	1888	
Falcon	1911	1932	Mail to Avery
Frisco			Mail to Gem
Gem	1888	1965	Mail to Wallace
Glenn	1885	1891	
Gordon	1894		Name changed to Remington, 1906
Government Gulch			Mail to Kellogg
Grand Forks	1908	1908	(rescinded)
Graneys			Mail to Kellogg
Granite			Mail to Wallace
Gratia			Mail to St. Joe
Haight			Mail to Enaville
Harbona	1915	1918	
Hecla			Mail to Mace
Herrick	1911	1916	
Interstate	1915	1925	Mail to Wallace
Jarva			Mail to Enaville
Java			Mail to Kingston
Jenkins	1903	1905	
Joseph	1899		Name changed to Ahsahka, 1899

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<i>SHOSHONE</i> (continued)			
Kellogg	1887		
Kingston	1885		
Kyle			Mail to Pinchot
Lake Gulch			Mail to Wallace
Larsen	1907	1916	Mail to Mullan
Leyburn	1892	1896	
Linfors	1916	1925	Mail to Enaville
Littlefield	1884	1889	
Little North Fork			Mail to Enaville
Lolo	1882	1892	
Lower Tunnel			Mail to Kellogg
Mace	1899	1922	
Mammoth Mine			Mail to Burke
Manchester			Mail to Wallace
Marble Creek	1916	1927	Mail to Calder
Masonia	1916	1937	Mail to Kellogg
McAuly	1885	1894	Mail to Kellogg
Monarch	1910	1918	Mail to Murray
Mullan	1886		
Murray	1884	1959	Was Curry
Myrtle	1885	1890	
North Fork			Mail to Pinchot
Old Mammoth			Mail to Burke
Osborne	1915		Name changed to Osburn, 1920
Osburn	1920		
Osburn	1887	1914	Mail to Wallace
Page	1927	1959	Mail to Pinehurst
Paragon	1908	1918	Mail to Murray
Pierce City	1863	1881; 1882-1892	
Pinchot	1908		Name changed to Avery, 1910
Pine Creek			Mail to Enaville
Pocono			Mail to Remington
Powder Spur			Mail to Wallace
Price	1902	1903	
Prichard	1910	1943	Mail to Wallace
Pyle	1905	1905	(rescinded)
Raven			Mail to Murray
Reds	1902	1902	(rescinded)
Remington	1906	1909	Was Gordon, 1894
Rex			Mail to Wallace

NORTH IDAHO POST OFFICES (Continued)

TOWNS BY COUNTY	DATE ESTABLISHED	DATE DISCONTINUED	REMARKS
<i>SHOSHONE</i> (continued)			
Rock Spur			Mail to Mace
Roland			Mail to Pinchot
Shonts	1930	1931	(rescinded)
Sierra Nevada			Mail to Kellogg
Silver King	1900	1906	Mail to Kellogg
Silverton	1941		
Smelterville	1929		
Smiths Spur			Mail to Enaville
Steamboat Creek			Mail to Enaville
Stewart	1911	1918	Mail to Kellogg
Strauss	1896	1896	
Success			Mail to Wallace
Sunset	1888	1888	
Sunset	1913	1929	Mail to Wallace
Sweeny			Mail to Kellogg
Thurston	1910	1911	Mail to Kellogg
Union	1910	1918	Was Walker, 1909
			Mail to Murray
Walker	1909	1910	Name changed to Union, 1910
Wallace	1886		Originally Placer Center
Wardner	1887		Was Wordner, 1886
Wordner	1886		Name changed to Wardner, 1887
			Was originally Kentuck

Appendix E
CCC Camps in North Idaho through December, 1940

<u>Camp Designation</u>	<u>Company Number</u>	<u>Camp Name</u>	<u>Post Office</u>	<u>County Location</u>
F-15		Little North Fork	Enaville	Kootenai
F-16		Falls Creek	Prichard	Shoshone
F-22		Magee #2	Coeur d'Alene	Shoshone
F-24		Rock City #2	Coeur d'Alene	Shoshone
F-27		Eagle Creek	Prichard	Shoshone
F-28		Delta	Prichard	Shoshone
F-29		Grizzley	Prichard	Shoshone
F-30		Prichard	Prichard	Shoshone
F-31		Priest Lake	Priest River	Bonner
F-36		Grouse Creek	Sandpoint	Bonner
F-39		Cedar Creek	Emida	Latah
F-40		Santa Creek	Emida	Benewah
F-41		Charles Creek	Emida	Benewah
F-42		Emerald Creek	Fernwood	Benewah
F-43		Keeler Creek	Clarkia	Shoshone
F-44		Mary Creek	Fernwood	Shoshone
F-45		Gold Creek	Clarkia	Shoshone
F-46		Olson Creek	Clarkia	Shoshone
F-48		Mary Creek #2	Clarkia	Shoshone
F-49		Round Top	Avery	Shoshone
F-50		Packsaddle	Avery	Shoshone

<u>Camp Designation</u>	<u>Company Number</u>	<u>Camp Name</u>	<u>Post Office</u>	<u>County Location</u>
F-110		Experimental Station	Priest River	Bonner
F-111		Lightning Creek	Clark Fork	Bonner
F-113		Hudlow Creek	Enaville	Kootenai
F-114		Cataldo	Cataldo	Shoshone
F-116		Herrick	St. Maries	Shoshone
F-117		Marble Creek	St. Maries	Shoshone
F-118		Hoyt	St. Maries	Shoshone
F-119		Funniff	St. Maries	Shoshone
F-120		Avery	Avery	Shoshone
F-121		Bath Tub	Avery	Shoshone
F-122		Gold Creek	St. Regis, MT.	Shoshone
F-124		Twenty Mile Creek	Naples	Boundary
F-126		Smith Creek	Porthill	Boundary
F-127	3343	Experimental Station	Priest River	Bonner
F-128		Falls Creek	Naples	Boundary
F-130		Blow Down #1	Priest River	Bonner
F-131		Big Creek #1	Prichard	Shoshone
F-132	531	Big Creek #2	Prichard	Shoshone
F-133		Beaver Creek	Enaville	Shoshone
F-134		Magee	Enaville	Shoshone
F-135		Riley Creek	Coeur d'Alene	Shoshone
F-136		Grizzley	Enaville	Shoshone
F-137		Deception Creek	Coeur d'Alene	Kootenai

<u>Camp Designation</u>	<u>Company Number</u>	<u>Camp Name</u>	<u>Post Office</u>	<u>County Location</u>
F-140		Merry Creek	Fernwood	Shoshone
F-141		Collins	Bovill	Latah
F-142		Kalispell Bay	Priest River	Bonner
F-149		Skin Creek	Moyie Springs	Boundary
F-150		Hawk Ranger Station	Prichard	Shoshone
F-151		Pine Flats	Prichard	Shoshone
F-152		Eagle Creek	Prichard	Shoshone
F-153		Rock City	Enaville	Shoshone
F-154	562	Devils Elbow	Prichard	Shoshone
F-155		Nowhere Creek	Enaville	Shoshone
F-156		Horse Heaven	Enaville	Kootenai
F-157		Renfro	Fernwood	Benewah
F-158		Badger Meadow	Bovill	Clearwater
F-159	5354	Blow Down #2	Priest River	Bonner
F-160		Bussel Creek	Clarkia	Shoshone
F-161		Cotter	Clarkia	Shoshone
F-162		Gleason Ranger Station	Priest River	Bonner
F-163		Boswell	Priest River	Bonner
F-164	594	Four Corners	Priest River	Bonner
F-165		Beaver Dam	Priest River	Bonner
F-180		Hayden Lake	Coeur d'Alene	Kootenai
F-181		Jordan Creek	Enaville	Shoshone

<u>Camp Designation</u>	<u>Company Number</u>	<u>Camp Name</u>	<u>Post Office</u>	<u>County Location</u>
F-182	1249	Wolf Lodge	Coeur d'Alene	Kootenai
F-184		Red Ives #1	St. Regis, MT.	Shoshone
F-185		Palouse River	Potlatch	Latah
F-186		West Emerald	Fernwood	Latah
F-187	5716	St. Joe River	Avery	Shoshone
F-188	229	Willow Creek	Emida	Benewah
F-189		Emerald Creek	Fernwood	Latah
F-203	3272	Drysdale	Calder	Shoshone
F-204	1204	Hoss	St. Maries	Shoshone
F-205	257	Quinn	Bovill	Latah
P-203		East River	Coolin	Bonner
P-208		Collin Creek	Bovill	Latah
P-209		Potlatch	Bovill	Clearwater
S-202		Indian Creek	Coolin	Bonner
S-210		Ruby Creek	Bovill	Latah
S-260		Big Meadow Creek	Troy	Latah
S-263	2358	Priest Lake	Coolin	Bonner
S-272		Moose Creek	Bovill	Latah
SCS-1		Moscow	Moscow	Latah
SCS-2		Peona	Worley	Kootenai
SP-1		Heyburn	Chatcolet	Benewah

(The above information was taken from a manuscript entitled Civilian Conservation Corps, Ninth Corps Area, Status record of CCC camps authorized since inception of the program up to and including December 31, 1940. This manuscript was obtained from the National Archives, Washington, D.C., and is on file in Sandpoint at the office of Cultural Resource Consultants, Inc.)

Note: Letter designations represent: F-forest; P-private; S-state; SCS-Soil Conservation Service; SP-state park camps.

CCC Camps in Northeastern Washington

<u>Camp Designation</u>	<u>Camp Name</u>	<u>Post Office</u>	<u>Forest</u>
F-3	Republic	Republic	Colville
F-4	Logo/Deadman Creek	Boyds	Colville
F-5	Leese	Tonasket	Colville
F-6	Midget Creek	Orient	Colville
F-51	Aeneas		Colville
P-206	Deer Lake		Stevens Co.
P-207	Three Forks		Stevens Co.
P-215	Tacoma Creek		Pend Oreille Co.
WP-207	Three Forks		Stevens Co.

(From Carroll 1973)